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MICROSTRUCTURE CASTS DURING AIMEX (ARCTIC INTERNAL WAVE  
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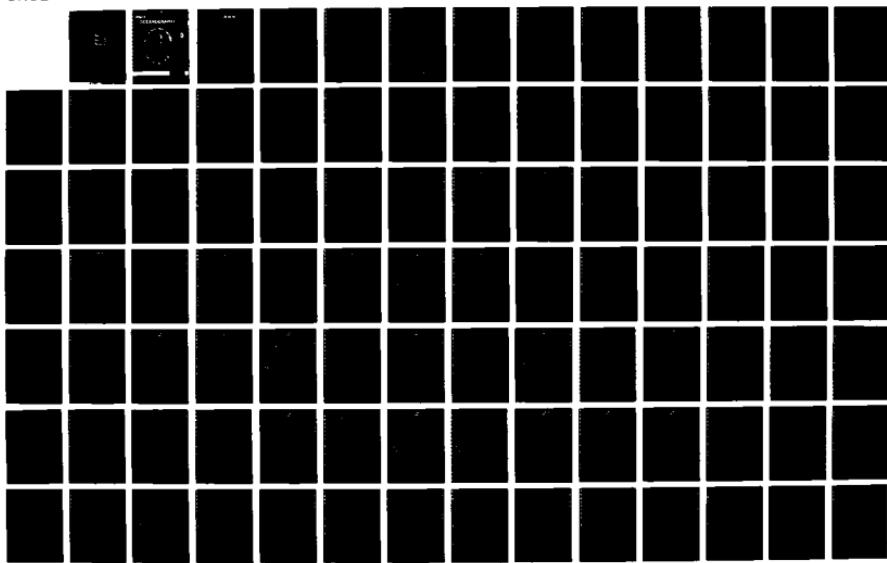
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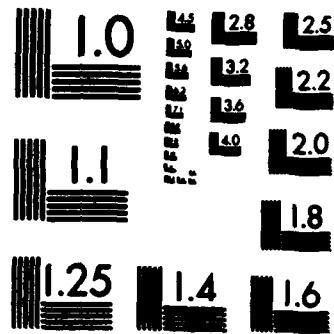
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OREGON STATE UNIVERSITY

MICROSTRUCTURE CASTS DURING  
AIWEX: A SUMMARY

by

Thomas M. Dillon  
Michael D. Brown  
Holly C. GarrowReference 86-7  
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The Arctic Internal Wave Experiment (AIWEX) was designed to study the internal wave and microstructure fields in the Beaufort Sea in the early spring. A major goal of the experiment was to verify the hypothesis that the internal wave and microstructure fields beneath the ice are far less energetic than in temperat <del>re</del> re oceans. Major goals of the microstructure measurements were: to characterize the double-diffusive staircase region in the depth range 300-450m; to estimate the heat flux from the deep Atlantic water into shallower depth zones; and to assess the influence of mesoscale and sub-mesoscale eddies on turbulence beneath the ice. <i>104100</i>		

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An ice camp was established in mid March 1985 to accomplish these goals. The camp was occupied until the first week of May, and microstructure casts were made beginning March 20 (Julian Day 79). Microstructure profiling continued until April 26; no profiles were obtained from April 4 through April 16 because of a malfunction in the data acquisition system. Over 700 casts were made spanning the range 0 to 500 m. The time between profiles averaged 20 minutes for a full-range profile. Not all casts covered the full depth range; some yo-yo casts through selected depth ranges were made to obtain detailed information on a shorter time scale. The ice camp drifted with a typical speed of 5 to 10 cm/s, although there were periods when the speed was as slow as 1 cm/s.

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**MICROSTRUCTURE CASTS DURING AIWEX: A SUMMARY**

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#### ACKNOWLEDGEMENTS

The success of the AIWEX experiment was due in large part to the dedication and skill of the logistics team of the Polar Science Center, Applied Physics Laboratory, University of Washington. Andy Heiberg, Allen Hielscher, and Imants Virsnieks demonstrated an inordinate tolerance to the naivete of polar greenhorns. Jamie Morison deserves special thanks for keeping the moral of the camp at a high level, and for sharing his expertise in all things Arctic. He, along with C. Paulson, M. Levine, and E. D'Asaro provided much of the scientific motivation for the AiweX experience. The experiment could not have been accomplished without the help of Roger Samelson, who seemed never to tire, and was always willing to "...make one more cast."

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## INTRODUCTION

The Arctic Internal Wave Experiment (AIWEX) was designed to study the internal wave and microstructure fields in the Beaufort Sea in the early spring. A major goal of the experiment was to verify the hypothesis that the internal wave and microstructure fields beneath the ice are far less energetic than in temperate oceans. Major goals of the microstructure measurements were to characterize the double-diffusive staircase region in the depth range 300-450 m, to estimate the heat flux from the deep Atlantic water into shallower depth zones, and to assess the influence of mesoscale and sub-mesoscale eddies on turbulence beneath the ice.

An ice camp was established in mid March 1985 to accomplish these goals. The camp was occupied until the first week of May, and microstructure casts were made beginning March 20 (Julian Day 79). Microstructure profiling continued until April 26; no profiles were obtained from April 4 through April 16 because of a malfunction in the data acquisition system. Over 700 casts were made spanning the range 0 to 500 m. The time between profiles averaged 20 minutes for a full-range profile. Not all casts covered the full depth range; some yo-yo casts through selected depth ranges were made to obtain detailed information on a shorter time scale. The ice camp drifted with a typical speed of 5 to 10 cm/s, although there were periods when the speed was as slow as 1 cm/s.

## A. INSTRUMENTS

Microstructure casts were made through 2 meters of ice from a hydrohole positioned inside a small hut. The instrument used was the WAZP II, a vertical profiler that carries temperature, conductivity, pressure, and airfoil shear sensors (Crawford and Osborn, 1980). The WAZP resembles the RSVP (Caldwell, Dillon and Moum, 1985) in internal details, differing mainly in the method of sensor mounting, and method of achieving drag. The RSVP has temperature and conductivity sensors carefully shielded to prevent breakage, while the WAZP mounting is more exposed to the flow; the RSVP achieve drag with wing flaps, while the WAZP uses annular fiber brushes.

The temperature sensor was an FP07 thermistor. Two types of WAZP were used, the difference being the type of conductivity sensor. A Neil-Brown sensor (NBS) was used on instruments WA01 and WA02, while a microconductivity sensor (MCS); manufactured by Precision Measurement Engineering and described by Head [1983]) was used on instruments WA03 and WA04. The MCS has a much finer spatial resolution than the NBS, but suffers from severe calibration drifts. The NBS also showed some drift with time, but was much more reliable than the MCS. WA01 and WA02 had shear sensors on stings protruding 10 cm beyond the WAZP nose cone front; the NBS was mounted on the side of the nose cone about 5 cm from the nose cone front, and the thermistor was mounted at the leading edge of the NBS. WA03 and WA04 had an MCS, thermistor, and shear sensors all mounted on a stings protruding 10 cm in front of the nose cone.

Voltage signals were sent up the data line, amplified, filtered, and digitized with a 12-bit analog to digital converter controlled by an LSI 11/23 computer system. Resolution was increased by amplifying temperature and conductivity each on two independent channels. On one channel (the "low gain" channel), amplifier gain and offset was kept constant, but on the second channel (the "high gain" channel), the operator periodically adjusted the voltage offset (using digital switches) to maximize the resolution. Typically, the voltage offset for conductivity was adjusted 3 or 4 times during a drop, increasing the effective dynamic range from 12 bits to 13 or 14 bits.

Temperature and conductivity were filtered at 40 Hz, and sampled at a rate of 130 times per second. Pressure was filtered at 1 Hz and sampled 130/s, while shear sensors were filtered at 80 Hz, and sampled at 260/s.

#### B. DESCRIPTION OF OBSERVATIONS

The microstructure observations recorded here are composed of five sections. The first is a collection of "deep" temperature, salinity, and  $\sigma_t$  plots spanning the time of the experiment. These plots extend from the surface to 350, 400, or 450 meters, depending on the length of the cast. They illustrate the structure of the upper Beaufort sea, and how structures changes in time and space. Averaging for these plots corresponds to about a 0.4 meter averaging length (64 point average of a signal sampled at a rate of 130/s, with approximately 80 cm/s fall speed). Salinities were calculated using the low-gain temperature and conductivity channels.

The second section is a series of T-S diagrams taken from the same 64 point average data described above.

The third section is a series of temperature plots of nearly all the casts, with more than one profile on each cast. These are drawn together, often on expanded depth and temperature scales, to illustrate the variability (at times, the lack of variability!) of structures in the upper waters of the Beaufort Sea. Plots on expanded scales typically are 16 point averages, that is, approximately a 10 cm resolution.

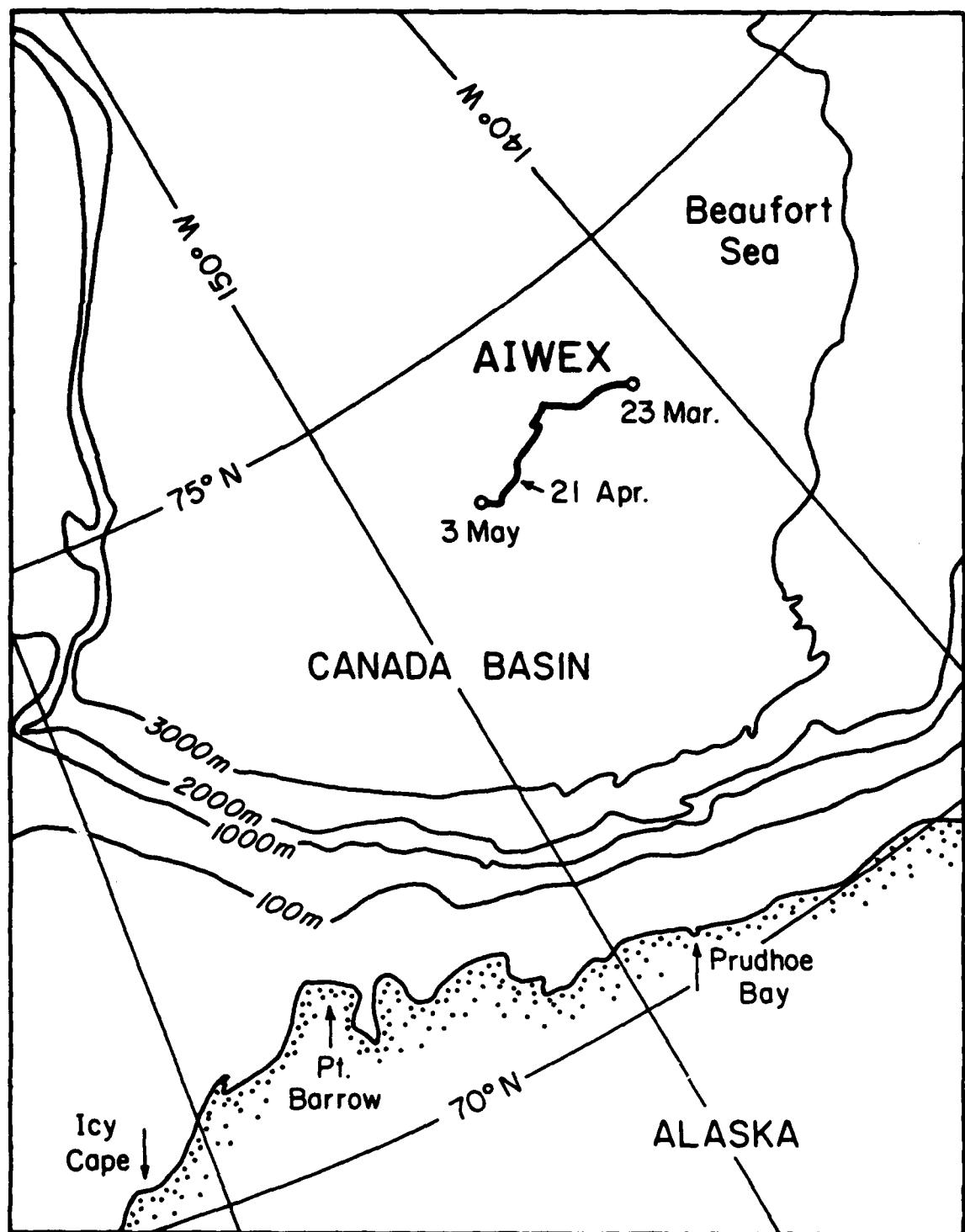
The fourth section is a detail of temperature profiles in the thermohaline staircase region between 340 and 380 m. These are a subset of a 37 hour time-series of drops taken closely in time with the instrument WA02. Individual steps are traceable from profile to profile in this series, and the vertical oscillation of internal waves can be clearly seen. The time between profiles (typically 10 to 20 minutes) is usually short enough to avoid aliasing, because the buoyancy frequency here is of order 1 cycle per hour.

The fifth section is a collection of kinetic energy dissipation rate profiles plotted beside buoyancy frequency. Dissipation rates were calculated by integrating the spectrum from the shear sensors over a band dependent on the spectral energy (a method similar to that of Shay and Gregg [1986] was used to determine the upper cut-off frequency). The

averaging interval used was typically 2 meters. Dissipation rates from a three-day period beginning on March 24 (J.D. 114) are included. The March 24 dissipation rates are typical of most other days of the experiment: little if any significant turbulence was seen outside of the surface mixed layer. Usually, the calculated dissipation rate is far below  $30 \nu N^2$ , the lowest value expected for overturning turbulence. On March 25 (J.D. 115), the ice camp passed through a small mesoscale eddy, and significant but intermittent dissipation rates were seen in the upper 200 m. On March 26 (J.D. 116), few mixing events were observed.

Several investigators made measurements that compliment the microstructure observations. M. Levine used an ice-moored array of Seabird sensors to make a time series of temperature, depth, and conductivity. J. Morison used a Seabird CTD system along with propeller triplet current meter to make vertical profiles of temperature, conductivity, and velocity. C. Paulson deployed an array of S4 and VMCM current meters. R. Pinkel and J. Morrison monitored currents with tow acoustic doppler current meters. E. D'Asaro measured vertical profiles of current at distances far removed from the camp using XCPs. J. Swift measured deep profiles of various chemical species with bottle casts. M. McPhee measured turbulent velocity fluctuations in the boundary layer beneath the ice. The Polar Science Center logistics group monitored the ice camp position using a satellite navigation system, and measured the surface winds.

C. CAMP POSITION MAP



## D. CAMP POSITION TABLE

J.	Day	hour	long	lat	J.	Day	hour	long	lat
82	8	74.02624	-142.88832	82	9	74.02626	-142.89253		
82	10	74.02622	-142.89667	82	11	74.02621	-142.90036		
82	12	74.02614	-142.90373	82	13	74.02599	-142.90685		
82	14	74.02581	-142.91043	82	15	74.02553	-142.91566		
82	16	74.02532	-142.92162	82	17	74.02518	-142.92836		
82	18	74.02518	-142.93726	82	19	74.02523	-142.94635		
82	20	74.02533	-142.95724	82	21	74.02543	-142.96899		
82	22	74.02555	-142.98195	82	23	74.02563	-142.99475		
83	0	74.02570	-143.00874	83	1	74.02576	-143.02255		
83	2	74.02581	-143.03613	83	3	74.02604	-143.05013		
83	4	74.02625	-143.06357	83	5	74.02647	-143.07674		
83	6	74.02679	-143.08951	83	7	74.02720	-143.10202		
83	8	74.02768	-143.11507	83	9	74.02806	-143.12868		
83	10	74.02833	-143.14279	83	11	74.02865	-143.15866		
83	12	74.02897	-143.17563	83	13	74.02918	-143.19455		
83	14	74.02969	-143.21449	83	15	74.03031	-143.23454		
83	16	74.03101	-143.25464	83	17	74.03204	-143.27399		
83	18	74.03314	-143.29303	83	19	74.03461	-143.31160		
83	20	74.03635	-143.33038	83	21	74.03862	-143.34958		
83	22	74.04109	-143.36909	83	23	74.04410	-143.38914		
84	0	74.04721	-143.40878	84	1	74.05048	-143.42844		
84	2	74.05408	-143.44717	84	3	74.05766	-143.46368		
84	4	74.06120	-143.48050	84	5	74.06468	-143.49695		
84	6	74.06837	-143.51170	84	7	74.07211	-143.52670		
84	8	74.07597	-143.54053	84	9	74.07986	-143.55444		
84	10	74.08412	-143.56796	84	11	74.08838	-143.58266		
84	12	74.09267	-143.59764	84	13	74.09702	-143.61400		
84	14	74.10147	-143.63069	84	15	74.10603	-143.64848		
84	16	74.11073	-143.66730	84	17	74.11562	-143.68671		
84	18	74.12078	-143.70602	84	19	74.12620	-143.72583		
84	20	74.13178	-143.74335	84	21	74.13755	-143.75880		
84	22	74.14327	-143.77216	84	23	74.14880	-143.78308		
85	0	74.15408	-143.79291	85	1	74.15914	-143.80205		
85	2	74.16399	-143.81221	85	3	74.16872	-143.82286		
85	4	74.17348	-143.83440	85	5	74.17844	-143.84636		
85	6	74.18377	-143.85907	85	7	74.18921	-143.87099		
85	8	74.19518	-143.88055	85	9	74.20122	-143.88673		
85	10	74.20734	-143.89018	85	11	74.21320	-143.89088		
85	12	74.21911	-143.89227	85	13	74.22446	-143.89432		
85	14	74.22922	-143.89781	85	15	74.23353	-143.90399		
85	16	74.23719	-143.91168	85	17	74.24055	-143.92175		
85	18	74.24391	-143.93295	85	19	74.24671	-143.94122		
85	20	74.24923	-143.94878	85	21	74.25144	-143.95380		
85	22	74.25287	-143.95587	85	23	74.25400	-143.95604		

J.	Day	hour	long	lat	J.	Day	hour	long	lat
86	0	74.25465	-143.95468	86	1	74.25493	-143.95323		
86	2	74.25452	-143.95279	86	3	74.25379	-143.95326		
86	4	74.25330	-143.95702	86	5	74.25243	-143.95801		
86	6	74.25163	-143.95856	86	7	74.25111	-143.95886		
86	8	74.25053	-143.95772	86	9	74.24988	-143.95593		
86	10	74.24919	-143.95361	86	11	74.24850	-143.95128		
86	12	74.24763	-143.94849	86	13	74.24673	-143.94588		
86	14	74.24577	-143.94400	86	15	74.24485	-143.94191		
86	16	74.24394	-143.94029	86	17	74.24311	-143.93797		
86	18	74.24232	-143.93486	86	19	74.24157	-143.93109		
86	20	74.24075	-143.92642	86	21	74.23988	-143.92104		
86	22	74.23893	-143.91528	86	23	74.23798	-143.90953		
87	0	74.23706	-143.90370	87	1	74.23627	-143.89870		
87	2	74.23566	-143.89412	87	3	74.23524	-143.89104		
87	4	74.23505	-143.88890	87	5	74.23506	-143.88760		
87	6	74.23526	-143.88768	87	7	74.23549	-143.88840		
87	8	74.23573	-143.88751	87	9	74.23592	-143.88687		
87	10	74.23593	-143.88535	87	11	74.23598	-143.88371		
87	12	74.23581	-143.88155	87	13	74.23566	-143.87962		
87	14	74.23559	-143.87834	87	15	74.23548	-143.87717		
87	16	74.23547	-143.87711	87	17	74.23553	-143.87796		
87	18	74.23569	-143.87903	87	19	74.23586	-143.87990		
87	20	74.23602	-143.88048	87	21	74.23621	-143.88016		
87	22	74.23640	-143.88013	87	23	74.23653	-143.87938		
88	0	74.23658	-143.87869	88	1	74.23650	-143.87785		
88	2	74.23632	-143.87750	88	3	74.23601	-143.87727		
88	4	74.23560	-143.87758	88	5	74.23507	-143.87787		
88	6	74.23451	-143.87837	88	7	74.23386	-143.87825		
88	8	74.23316	-143.87817	88	9	74.23243	-143.87746		
88	10	74.23155	-143.87636	88	11	74.23064	-143.87465		
88	12	74.22964	-143.87273	88	13	74.22858	-143.87054		
88	14	74.22753	-143.86832	88	15	74.22646	-143.86667		
88	16	74.22543	-143.86513	88	17	74.22448	-143.86400		
88	18	74.22356	-143.86378	88	19	74.22264	-143.86464		
88	20	74.22179	-143.86563	88	21	74.22097	-143.86771		
88	22	74.22022	-143.86913	88	23	74.21953	-143.87007		
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89	2	74.21786	-143.87271	89	3	74.21731	-143.87334		
89	4	74.21668	-143.87447	89	5	74.21606	-143.87567		
89	6	74.21538	-143.87724	89	7	74.21465	-143.87901		
89	8	74.21388	-143.88055	89	9	74.21323	-143.88226		
89	10	74.21261	-143.88330	89	11	74.21210	-143.88397		
89	12	74.21157	-143.88379	89	13	74.21104	-143.88338		
89	14	74.21046	-143.88260	89	15	74.20974	-143.88196		
89	16	74.20885	-143.88190	89	17	74.20794	-143.88245		
89	18	74.20691	-143.88409	89	19	74.20589	-143.88622		
89	20	74.20489	-143.88889	89	21	74.20404	-143.89149		
89	22	74.20330	-143.89394	89	23	74.20262	-143.89587		

J.	Day	hour	long	lat	J.	Day	hour	long	lat
90	0	74.20197	-143.89702	90	1	74.20126	-143.89731		
90	2	74.20052	-143.89687	90	3	74.19976	-143.89565		
90	4	74.19898	-143.89400	90	5	74.19835	-143.89259		
90	6	74.19783	-143.89143	90	7	74.19746	-143.89058		
90	8	74.19723	-143.89021	90	9	74.19712	-143.89001		
90	10	74.19714	-143.89008	90	11	74.19720	-143.89011		
90	12	74.19726	-143.89020	90	13	74.19724	-143.88992		
90	14	74.19710	-143.88937	90	15	74.19683	-143.88873		
90	16	74.19647	-143.88794	90	17	74.19608	-143.88734		
90	18	74.19560	-143.88673	90	19	74.19518	-143.88635		
90	20	74.19474	-143.88608	90	21	74.19436	-143.88577		
90	22	74.19402	-143.88539	90	23	74.19369	-143.88490		
91	0	74.19340	-143.88414	91	1	74.19314	-143.88318		
91	2	74.19289	-143.88213	91	3	74.19267	-143.88089		
91	4	74.19250	-143.87961	91	5	74.19237	-143.87914		
91	6	74.19218	-143.87854	91	7	74.19202	-143.87817		
91	8	74.19189	-143.87827	91	9	74.19180	-143.87859		
91	10	74.19169	-143.87901	91	11	74.19160	-143.87907		
91	12	74.19160	-143.87907	91	13	74.19160	-143.87868		
91	14	74.19168	-143.87833	91	15	74.19179	-143.87778		
91	16	74.19186	-143.87743	91	17	74.19186	-143.87720		
91	18	74.19173	-143.87755	91	19	74.19154	-143.87816		
91	20	74.19118	-143.87938	91	21	74.19075	-143.88092		
91	22	74.19032	-143.88268	91	23	74.18987	-143.88446		
92	0	74.18949	-143.88626	92	1	74.18916	-143.88786		
92	2	74.18893	-143.88930	92	3	74.18866	-143.89091		
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93	4	74.17981	-144.02010	93	5	74.17972	-144.03148		
93	6	74.17977	-144.04208	93	7	74.17986	-144.05194		
93	8	74.18003	-144.06084	93	9	74.18011	-144.06927		
93	10	74.18008	-144.07736	93	11	74.17989	-144.08546		
93	12	74.17949	-144.09389	93	13	74.17887	-144.10295		
93	14	74.17814	-144.11292	93	15	74.17726	-144.12376		
93	16	74.17640	-144.13545	93	17	74.17558	-144.14737		
93	18	74.17484	-144.15976	93	19	74.17427	-144.17244		
93	20	74.17381	-144.18544	93	21	74.17350	-144.19833		
93	22	74.17324	-144.21121	93	23	74.17293	-144.22409		

J.	Day	hour	long	lat	J.	Day	hour	long	lat
94	0	74.17259	-144.23700	94	1	74.17212	-144.24976		
94	2	74.17155	-144.26234	94	3	74.17088	-144.27464		
94	4	74.17013	-144.28629	94	5	74.16943	-144.29741		
94	6	74.16878	-144.30777	94	7	74.16821	-144.31744		
94	8	74.16764	-144.32666	94	9	74.16713	-144.33521		
94	10	74.16659	-144.34357	94	11	74.16597	-144.35164		
94	12	74.16518	-144.35934	94	13	74.16434	-144.36754		
94	14	74.16334	-144.37593	94	15	74.16235	-144.38499		
94	16	74.16135	-144.39441	94	17	74.16040	-144.40439		
94	18	74.15962	-144.41489	94	19	74.15899	-144.42601		
94	20	74.15858	-144.43752	94	21	74.15832	-144.44983		
94	22	74.15816	-144.46185	94	23	74.15797	-144.47401		
95	0	74.15766	-144.48515	95	1	74.15721	-144.49638		
95	2	74.15664	-144.50687	95	3	74.15583	-144.51683		
95	4	74.15487	-144.52614	95	5	74.15408	-144.53389		
95	6	74.15300	-144.54004	95	7	74.15202	-144.54604		
95	8	74.15112	-144.55090	95	9	74.15042	-144.55638		
95	10	74.14986	-144.55931	95	11	74.14951	-144.56166		
95	12	74.14932	-144.56404	95	13	74.14917	-144.56516		
95	14	74.14913	-144.56598	95	15	74.14905	-144.56589		
95	16	74.14904	-144.56544	95	17	74.14886	-144.56622		
95	18	74.14883	-144.56577	95	19	74.14870	-144.56610		
95	20	74.14841	-144.56798	95	21	74.14801	-144.57060		
95	22	74.14746	-144.57501	95	23	74.14696	-144.58038		
96	0	74.14647	-144.58624	96	1	74.14606	-144.59152		
96	2	74.14574	-144.59639	96	3	74.14555	-144.59892		
96	4	74.14547	-144.60010	96	5	74.14551	-144.59857		
96	6	74.14561	-144.59784	96	7	74.14570	-144.59608		
96	8	74.14577	-144.59392	96	9	74.14579	-144.59161		
96	10	74.14576	-144.59064	96	11	74.14574	-144.59084		
96	12	74.14571	-144.59157	96	13	74.14575	-144.59267		
96	14	74.14587	-144.59367	96	15	74.14600	-144.59439		
96	16	74.14617	-144.59459	96	17	74.14635	-144.59410		
96	18	74.14649	-144.59351	96	19	74.14657	-144.59290		
96	20	74.14658	-144.59207	96	21	74.14655	-144.59181		
96	22	74.14644	-144.59209	96	23	74.14633	-144.59280		
97	0	74.14622	-144.59373	97	1	74.14620	-144.59471		
97	2	74.14622	-144.59547	97	3	74.14629	-144.59583		
97	4	74.14632	-144.59608	97	5	74.14639	-144.59634		
97	6	74.14636	-144.59650	97	7	74.14642	-144.59698		
97	8	74.14649	-144.59743	97	9	74.14652	-144.59819		
97	10	74.14651	-144.59914	97	11	74.14649	-144.59993		
97	12	74.14647	-144.60046	97	13	74.14643	-144.60101		
97	14	74.14645	-144.60123	97	15	74.14649	-144.60168		
97	16	74.14658	-144.60178	97	17	74.14678	-144.60173		
97	18	74.14703	-144.60219	97	19	74.14734	-144.60332		
97	20	74.14771	-144.60535	97	21	74.14807	-144.60863		
97	22	74.14840	-144.61295	97	23	74.14867	-144.61821		

J.	Day	hour	long	lat	J.	Day	hour	long	lat
98	0	74.14884	-144.62416		98	1	74.14889	-144.63037	
98	2	74.14882	-144.63646		98	3	74.14867	-144.64185	
98	4	74.14851	-144.64651		98	5	74.14834	-144.65001	
98	6	74.14821	-144.65240		98	7	74.14806	-144.65375	
98	8	74.14789	-144.65465		98	9	74.14775	-144.65503	
98	10	74.14761	-144.65511		98	11	74.14743	-144.65527	
98	12	74.14719	-144.65573		98	13	74.14692	-144.65631	
98	14	74.14651	-144.65712		98	15	74.14601	-144.65808	
98	16	74.14539	-144.65962		98	17	74.14466	-144.66173	
98	18	74.14388	-144.66475		98	19	74.14310	-144.66885	
98	20	74.14234	-144.67403		98	21	74.14162	-144.68054	
98	22	74.14091	-144.68781		98	23	74.14025	-144.69548	
99	0	74.13957	-144.70317		99	1	74.13890	-144.71040	
99	2	74.13817	-144.71651		99	3	74.13742	-144.72131	
99	4	74.13671	-144.72437		99	5	74.13602	-144.72615	
99	6	74.13553	-144.72618		99	7	74.13511	-144.72539	
99	8	74.13483	-144.72371		99	9	74.13467	-144.72215	
99	10	74.13462	-144.71964		99	11	74.13451	-144.71777	
99	12	74.13441	-144.71658		99	13	74.13415	-144.71593	
99	14	74.13384	-144.71500		99	15	74.13348	-144.71347	
99	16	74.13306	-144.71233		99	17	74.13265	-144.71054	
99	18	74.13226	-144.70840		99	19	74.13182	-144.70575	
99	20	74.13131	-144.70288		99	21	74.13073	-144.69925	
99	22	74.13015	-144.69562		99	23	74.12952	-144.69218	
100	0	74.12885	-144.68877		100	1	74.12817	-144.68504	
100	2	74.12758	-144.68143		100	3	74.12704	-144.67781	
100	4	74.12660	-144.67441		100	5	74.12625	-144.67099	
100	6	74.12591	-144.66766		100	7	74.12566	-144.66438	
100	8	74.12540	-144.66109		100	9	74.12502	-144.65761	
100	10	74.12455	-144.65401		100	11	74.12399	-144.65013	
100	12	74.12334	-144.64607		100	13	74.12261	-144.64134	
100	14	74.12188	-144.63673		100	15	74.12113	-144.63181	
100	16	74.12039	-144.62680		100	17	74.11972	-144.62138	
100	18	74.11891	-144.61554		100	19	74.11798	-144.60919	
100	20	74.11690	-144.60185		100	21	74.11566	-144.59372	
100	22	74.11426	-144.58444		100	23	74.11288	-144.57483	
101	0	74.11157	-144.56453		101	1	74.11043	-144.55406	
101	2	74.10942	-144.54385		101	3	74.10857	-144.53365	
101	4	74.10778	-144.52338		101	5	74.10715	-144.51309	
101	6	74.10648	-144.50249		101	7	74.10564	-144.49159	
101	8	74.10474	-144.48068		101	9	74.10360	-144.46930	
101	10	74.10237	-144.45793		101	11	74.10110	-144.44658	
101	12	74.09985	-144.43576		101	13	74.09850	-144.42567	
101	14	74.09729	-144.41594		101	15	74.09598	-144.40657	
101	16	74.09460	-144.39824		101	17	74.09297	-144.38896	
101	18	74.09111	-144.37959		101	19	74.08881	-144.36972	
101	20	74.08626	-144.36047		101	21	74.08348	-144.35226	
101	22	74.08064	-144.34511		101	23	74.07789	-144.33955	

J.	Day	hour	long	lat	J.	Day	hour	long	lat
102	0	74.07531	-144.33418		102	1	74.07299	-144.33041	
102	2	74.07115	-144.32817		102	3	74.06996	-144.32812	
102	4	74.06917	-144.32870		102	5	74.06882	-144.33022	
102	6	74.06868	-144.33159		102	7	74.06867	-144.33359	
102	8	74.06859	-144.33507		102	9	74.06845	-144.33653	
102	10	74.06797	-144.33664		102	11	74.06760	-144.33806	
102	12	74.06712	-144.33934		102	13	74.06653	-144.34103	
102	14	74.06601	-144.34273		102	15	74.06553	-144.34476	
102	16	74.06516	-144.34659		102	17	74.06474	-144.34949	
102	18	74.06432	-144.35266		102	19	74.06393	-144.35666	
102	20	74.06355	-144.36064		102	21	74.06320	-144.36522	
102	22	74.06284	-144.37015		102	23	74.06248	-144.37497	
103	0	74.06218	-144.38065		103	1	74.06190	-144.38579	
103	2	74.06165	-144.39066		103	3	74.06146	-144.39491	
103	4	74.06124	-144.39838		103	5	74.06112	-144.40094	
103	6	74.06101	-144.40239		103	7	74.06094	-144.40221	
103	8	74.06085	-144.40314		103	9	74.06075	-144.40370	
103	10	74.06063	-144.40468		103	11	74.06055	-144.40604	
103	12	74.06049	-144.40782		103	13	74.06046	-144.40901	
103	14	74.06044	-144.41037		103	15	74.06042	-144.41081	
103	16	74.06041	-144.41100		103	17	74.06039	-144.41069	
103	18	74.06034	-144.40974		103	19	74.06023	-144.40999	
103	20	74.06003	-144.41377		103	21	74.05975	-144.41745	
103	22	74.05938	-144.42264		103	23	74.05895	-144.42958	
104	0	74.05850	-144.43729		104	1	74.05806	-144.44551	
104	2	74.05769	-144.45291		104	3	74.05740	-144.45894	
104	4	74.05714	-144.46405		104	5	74.05691	-144.46655	
104	6	74.05678	-144.46826		104	7	74.05673	-144.47052	
104	8	74.05670	-144.47112		104	9	74.05666	-144.47223	
104	10	74.05664	-144.47372		104	11	74.05666	-144.47530	
104	12	74.05663	-144.47684		104	13	74.05663	-144.47830	
104	14	74.05659	-144.47960		104	15	74.05652	-144.48096	
104	16	74.05638	-144.48409		104	17	74.05614	-144.48526	
104	18	74.05586	-144.48839		104	19	74.05553	-144.49353	
104	20	74.05521	-144.50050		104	21	74.05490	-144.50990	
104	22	74.05464	-144.52057		104	23	74.05446	-144.53198	
105	0	74.05442	-144.54338		105	1	74.05447	-144.55373	
105	2	74.05462	-144.56303		105	3	74.05485	-144.57141	
105	4	74.05506	-144.57849		105	5	74.05526	-144.58427	
105	6	74.05532	-144.58763		105	7	74.05534	-144.59196	
105	8	74.05535	-144.59665		105	9	74.05522	-144.60156	
105	10	74.05508	-144.60645		105	11	74.05495	-144.61134	
105	12	74.05482	-144.61534		105	13	74.05466	-144.61848	
105	14	74.05453	-144.62007		105	15	74.05434	-144.62144	
105	16	74.05414	-144.62364		105	17	74.05370	-144.62537	
105	18	74.05315	-144.62808		105	19	74.05248	-144.63280	
105	20	74.05167	-144.63957		105	21	74.05077	-144.64944	
105	22	74.04980	-144.66058		105	23	74.04887	-144.67316	

J.	Day	hour	long	lat	J.	Day	hour	long	lat
106	0	74.04797	-144.68581		106	1	74.04717	-144.69812	
106	2	74.04648	-144.70891		106	3	74.04586	-144.71831	
106	4	74.04534	-144.72542		106	5	74.04490	-144.73236	
106	6	74.04436	-144.73903		106	7	74.04394	-144.74500	
106	8	74.04334	-144.75171		106	9	74.04269	-144.75908	
106	10	74.04198	-144.76707		106	11	74.04111	-144.77563	
106	12	74.04022	-144.78470		106	13	74.03925	-144.79433	
106	14	74.03814	-144.80434		106	15	74.03699	-144.81548	
106	16	74.03596	-144.82616		106	17	74.03497	-144.83803	
106	18	74.03393	-144.85242		106	19	74.03280	-144.86739	
106	20	74.03167	-144.88367		106	21	74.03053	-144.90068	
106	22	74.02944	-144.91902		106	23	74.02824	-144.93697	
107	0	74.02708	-144.95496		107	1	74.02576	-144.97229	
107	2	74.02448	-144.98892		107	3	74.02325	-145.00397	
107	4	74.02194	-145.01860		107	5	74.02066	-145.03206	
107	6	74.01942	-145.04469		107	7	74.01807	-145.05643	
107	8	74.01675	-145.06775		107	9	74.01527	-145.07866	
107	10	74.01380	-145.08975		107	11	74.01214	-145.10036	
107	12	74.01044	-145.11118		107	13	74.00861	-145.12160	
107	14	74.00676	-145.13208		107	15	74.00468	-145.14240	
107	16	74.00250	-145.15311		107	17	74.00011	-145.16400	
107	18	73.99750	-145.17543		107	19	73.99454	-145.18790	
107	20	73.99142	-145.20132		107	21	73.98811	-145.21593	
107	22	73.98466	-145.23163		107	23	73.98129	-145.24826	
108	0	73.97804	-145.26581		108	1	73.97514	-145.28362	
108	2	73.97260	-145.30104		108	3	73.97052	-145.31741	
108	4	73.96870	-145.33287		108	5	73.96709	-145.34654	
108	6	73.96566	-145.35811		108	7	73.96424	-145.36807	
108	8	73.96274	-145.37640		108	9	73.96116	-145.38293	
108	10	73.95960	-145.38800		108	11	73.95774	-145.39288	
108	12	73.95583	-145.39749		108	13	73.95380	-145.40331	
108	14	73.95189	-145.41011		108	15	73.95013	-145.41873	
108	16	73.94849	-145.42899		108	17	73.94716	-145.44043	
108	18	73.94613	-145.45309		108	19	73.94530	-145.46631	
108	20	73.94480	-145.48013		108	21	73.94440	-145.49260	
108	22	73.94407	-145.50468		108	23	73.94377	-145.51697	
109	0	73.94352	-145.52864		109	1	73.94324	-145.54138	
109	2	73.94283	-145.55380		109	3	73.94238	-145.56696	
109	4	73.94191	-145.57953		109	5	73.94146	-145.59186	
109	6	73.94098	-145.60300		109	7	73.94053	-145.61230	
109	8	73.93993	-145.61928		109	9	73.93919	-145.62247	
109	10	73.93832	-145.62408		109	11	73.93730	-145.62343	
109	12	73.93633	-145.62247		109	13	73.93538	-145.62099	
109	14	73.93454	-145.62022		109	15	73.93381	-145.62019	
109	16	73.93314	-145.61946		109	17	73.93251	-145.62018	
109	18	73.93176	-145.62022		109	19	73.93095	-145.61935	
109	20	73.93004	-145.61774		109	21	73.92902	-145.61592	
109	22	73.92780	-145.61394		109	23	73.92638	-145.61200	

J.	Day	hour	long	lat	J.	Day	hour	long	lat
110	0	73.92480	-145.61041		110	1	73.92316	-145.60966	
110	2	73.92158	-145.60970		110	3	73.92014	-145.61006	
110	4	73.91892	-145.61137		110	5	73.91776	-145.61244	
110	6	73.91671	-145.61298		110	7	73.91572	-145.61299	
110	8	73.91487	-145.61157		110	9	73.91394	-145.60963	
110	10	73.91299	-145.60626		110	11	73.91180	-145.60287	
110	12	73.91039	-145.59926		110	13	73.90888	-145.59668	
110	14	73.90719	-145.59444		110	15	73.90557	-145.59273	
110	16	73.90415	-145.59157		110	17	73.90306	-145.58937	
110	18	73.90232	-145.58574		110	19	73.90186	-145.58017	
110	20	73.90154	-145.57262		110	21	73.90113	-145.56242	
110	22	73.90048	-145.55020		110	23	73.89948	-145.53752	
111	0	73.89809	-145.52495		111	1	73.89649	-145.51413	
111	2	73.89465	-145.50470		111	3	73.89301	-145.49786	
111	4	73.89149	-145.49323		111	5	73.89041	-145.49059	
111	6	73.88991	-145.48883		111	7	73.88972	-145.48839	
111	8	73.88989	-145.48792		111	9	73.89020	-145.48795	
111	10	73.89051	-145.48788		111	11	73.89079	-145.48807	
111	12	73.89083	-145.48682		111	13	73.89079	-145.48639	
111	14	73.89073	-145.48618		111	15	73.89059	-145.48593	
111	16	73.89045	-145.48538		111	17	73.89040	-145.48526	
111	18	73.89040	-145.48543		111	19	73.89038	-145.48582	
111	20	73.89035	-145.48567		111	21	73.89037	-145.48538	
111	22	73.89050	-145.48517		111	23	73.89059	-145.48512	
112	0	73.89071	-145.48584		112	1	73.89072	-145.48715	
112	2	73.89071	-145.49089		112	3	73.89052	-145.49017	
112	4	73.89019	-145.49106		112	5	73.88972	-145.49037	
112	6	73.88927	-145.48972		112	7	73.88879	-145.48878	
112	8	73.88847	-145.48923		112	9	73.88818	-145.48935	
112	10	73.88804	-145.49046		112	11	73.88799	-145.49307	
112	12	73.88803	-145.49599		112	13	73.88811	-145.49966	
112	14	73.88822	-145.50101		112	15	73.88824	-145.50278	
112	16	73.88825	-145.50243		112	17	73.88840	-145.49265	
112	18	73.88850	-145.49222		112	19	73.88887	-145.48999	
112	20	73.88931	-145.49600		112	21	73.88980	-145.50391	
112	22	73.89026	-145.51358		112	23	73.89069	-145.52492	
113	0	73.89091	-145.53581		113	1	73.89095	-145.54535	
113	2	73.89074	-145.54808		113	3	73.89023	-145.54492	
113	4	73.88975	-145.55046		113	5	73.88885	-145.55057	
113	6	73.88806	-145.55125		113	7	73.88705	-145.55658	
113	8	73.88631	-145.56100		113	9	73.88551	-145.57294	
113	10	73.88491	-145.58351		113	11	73.88432	-145.59215	
113	12	73.88371	-145.60002		113	13	73.88298	-145.60519	
113	14	73.88198	-145.60966		113	15	73.88070	-145.60866	
113	16	73.87901	-145.61292		113	17	73.87707	-145.61981	
113	18	73.87502	-145.62578		113	19	73.87289	-145.63528	
113	20	73.87087	-145.64836		113	21	73.86904	-145.66412	
113	22	73.86755	-145.68030		113	23	73.86632	-145.69673	

J.	Day	hour	long	lat	J.	Day	hour	long	lat
114	0	73.86536	-145.71043	114	1	73.86455	-145.72086		
114	2	73.86377	-145.73006	114	3	73.86292	-145.73746		
114	4	73.86185	-145.74113	114	5	73.86066	-145.74055		
114	6	73.85937	-145.74490	114	7	73.85796	-145.75252		
114	8	73.85657	-145.75664	114	9	73.85515	-145.76433		
114	10	73.85375	-145.77046	114	11	73.85249	-145.77646		
114	12	73.85118	-145.77870	114	13	73.84986	-145.78108		
114	14	73.84846	-145.78069	114	15	73.84698	-145.77722		
114	16	73.84540	-145.77361	114	17	73.84361	-145.77368		
114	18	73.84165	-145.77814	114	19	73.83968	-145.78534		
114	20	73.83766	-145.79526	114	21	73.83585	-145.80681		
114	22	73.83401	-145.81964	114	23	73.83231	-145.83182		
115	0	73.83065	-145.84290	115	1	73.82915	-145.85114		
115	2	73.82782	-145.85666	115	3	73.82663	-145.85966		
115	4	73.82565	-145.86241	115	5	73.82499	-145.86586		
115	6	73.82455	-145.86728	115	7	73.82430	-145.86749		
115	8	73.82419	-145.86726	115	9	73.82421	-145.86771		
115	10	73.82427	-145.86848	115	11	73.82452	-145.86972		
115	12	73.82467	-145.87094	115	13	73.82475	-145.87239		
115	14	73.82484	-145.87323	115	15	73.82458	-145.87607		
115	16	73.82430	-145.87981	115	17	73.82376	-145.88527		
115	18	73.82323	-145.89061	115	19	73.82275	-145.89911		
115	20	73.82217	-145.91032	115	21	73.82182	-145.92355		
115	22	73.82172	-145.93826	115	23	73.82187	-145.95393		
116	0	73.82234	-145.97006	116	1	73.82293	-145.98598		
116	2	73.82358	-146.00124	116	3	73.82404	-146.01492		
116	4	73.82421	-146.02666	116	5	73.82407	-146.03674		
116	6	73.82361	-146.04585	116	7	73.82285	-146.05507		
116	8	73.82201	-146.06480	116	9	73.82112	-146.07561		
116	10	73.82044	-146.08728	116	11	73.81982	-146.09944		
116	12	73.81934	-146.11221	116	13	73.81885	-146.12462		
116	14	73.81825	-146.13637	116	15	73.81764	-146.14755		
116	16	73.81676	-146.15837	116	17	73.81570	-146.16911		
116	18	73.81451	-146.18028	116	19	73.81322	-146.19238		
116	20	73.81194	-146.20560	116	21	73.81068	-146.22009		
116	22	73.80967	-146.23616	116	23	73.80878	-146.25325		
117	0	73.80795	-146.27068	117	1	73.80725	-146.28769		
117	2	73.80656	-146.30470	117	3	73.80586	-146.32045		
117	4	73.80505	-146.33607	117	5	73.80409	-146.35071		
117	6	73.80302	-146.36441	117	7	73.80183	-146.37819		
117	8	73.80056	-146.39038	117	9	73.79931	-146.40213		
117	10	73.79794	-146.41214	117	11	73.79664	-146.42046		
117	12	73.79524	-146.42624	117	13	73.79389	-146.43021		
117	14	73.79245	-146.43324	117	15	73.79090	-146.43338		
117	16	73.78935	-146.43423	117	17	73.78770	-146.43410		
117	18	73.78601	-146.43384	117	19	73.78430	-146.43332		
117	20	73.78255	-146.43434	117	21	73.78076	-146.43561		
117	22	73.77904	-146.43639	117	23	73.77732	-146.43721		

J.	Day	hour	long	lat	J.	Day	hour	long	lat
118	0	73.77573	-146.43660		118	1	73.77423	-146.43457	
118	2	73.77293	-146.43253		118	3	73.77173	-146.42975	
118	4	73.77071	-146.42670		118	5	73.77009	-146.42584	
118	6	73.76948	-146.42366		118	7	73.76908	-146.42076	
118	8	73.76882	-146.41917		118	9	73.76869	-146.41727	
118	10	73.76853	-146.41661		118	11	73.76836	-146.41629	
118	12	73.76824	-146.41661		118	13	73.76801	-146.41728	
118	14	73.76774	-146.41780		118	15	73.76743	-146.41747	
118	16	73.76699	-146.41711		118	17	73.76642	-146.41656	
118	18	73.76575	-146.41435		118	19	73.7649	-146.41159	
118	20	73.76420	-146.40718		118	21	73.76349	-146.40263	
118	22	73.76286	-146.39859		118	23	73.76225	-146.39328	
119	0	73.76179	-146.38963		119	1	73.76145	-146.38864	
119	2	73.76122	-146.38913		119	3	73.76107	-146.38908	
119	4	73.76103	-146.38953		119	5	73.76102	-146.39012	
119	6	73.76113	-146.39221		119	7	73.76118	-146.39313	
119	8	73.76125	-146.39413		119	9	73.76125	-146.39400	
119	10	73.76131	-146.39388		119	11	73.76136	-146.39296	
119	12	73.76138	-146.39163		119	13	73.76143	-146.38992	
119	14	73.76148	-146.38896		119	15	73.76154	-146.38878	
119	16	73.76170	-146.39021		119	17	73.76193	-146.39302	
119	18	73.76229	-146.39697		119	19	73.76284	-146.40236	
119	20	73.76351	-146.40819		119	21	73.76433	-146.41447	
119	22	73.76525	-146.42070		119	23	73.76628	-146.42656	
120	0	73.76729	-146.43164		120	1	73.76817	-146.43579	
120	2	73.76892	-146.43909		120	3	73.76949	-146.44144	
120	4	73.76992	-146.44373		120	5	73.77010	-146.44487	
120	6	73.77013	-146.44458		120	7	73.77011	-146.44511	
120	8	73.77006	-146.44460		120	9	73.76998	-146.44374	
120	10	73.76999	-146.44337		120	11	73.77003	-146.44318	
120	12	73.77010	-146.44312		120	13	73.77016	-146.44295	
120	14	73.77023	-146.44324		120	15	73.77023	-146.44365	
120	16	73.77023	-146.44397		120	17	73.77019	-146.44485	
120	18	73.77027	-146.44591		120	19	73.77053	-146.44696	
120	20	73.77097	-146.44827		120	21	73.77158	-146.44954	
120	22	73.77235	-146.45100		120	23	73.77326	-146.45250	
121	0	73.77426	-146.45425		121	1	73.77525	-146.45613	
121	2	73.77617	-146.45798		121	3	73.77702	-146.45990	
121	4	73.77761	-146.46136		121	5	73.77812	-146.46265	
121	6	73.77843	-146.46355		121	7	73.77885	-146.46481	
121	8	73.77926	-146.46587		121	9	73.77959	-146.46638	
121	10	73.77986	-146.46658		121	11	73.78015	-146.46666	
121	12	73.78036	-146.46664		121	13	73.78062	-146.46735	
121	14	73.78072	-146.46806		121	15	73.78111	-146.47002	
121	16	73.78164	-146.47293		121	17	73.78246	-146.47711	
121	18	73.78392	-146.48334		121	19	73.78562	-146.49022	
121	20	73.78787	-146.49821		121	21	73.79057	-146.50702	
121	22	73.79369	-146.51617		121	23	73.79713	-146.52589	

J.	Day	hour	long	lat	J.	Day	hour	long	lat
122	0	73.80083	-146.53557	122	1	73.80459	-146.54530		
122	2	73.80834	-146.55499	122	3	73.81194	-146.56438		
122	4	73.81525	-146.57333	122	5	73.81831	-146.58165		
122	6	73.82107	-146.58913	122	7	73.82350	-146.59555		
122	8	73.82557	-146.60051	122	9	73.82730	-146.60442		
122	10	73.82867	-146.60690	122	11	73.82978	-146.60905		
122	12	73.83064	-146.61057	122	13	73.83145	-146.61240		
122	14	73.83229	-146.61452	122	15	73.83353	-146.61743		
122	16	73.83475	-146.62022	122	17	73.83624	-146.62305		
122	18	73.83806	-146.62602	122	19	73.84019	-146.62907		
122	20	73.84243	-146.63197	122	21	73.84483	-146.63467		
122	22	73.84721	-146.63741	122	23	73.84940	-146.63986		
123	0	73.85133	-146.64246	123	1	73.85298	-146.64488		
123	2	73.85425	-146.64729	123	3	73.85519	-146.64943		
123	4	73.85577	-146.65146	123	5	73.85601	-146.65331		

## E. DROP TIME TABLE

drop number	unit	time GMT	Cal date	Julian day	drop number	unit	time GMT	Cal date	Julian day
A320A.001	NB	0559	3-20	79	A320A.002	NB	0622	3-20	79
A320A.003	NB	0648	3-20	79	A321A.001	NB	0200	3-21	80
A321A.002	NB	0219	3-21	80	A321A.003	NB	0237	3-21	80
A321A.004	NB	0300	3-21	80	A321A.005	NB	0458	3-21	80
A321A.006	NB	0519	3-21	80	A322A.001	NB	2019	3-22	81
A322A.002	NB	2036	3-22	81	A323A.001	NB	1938	3-23	82
A323A.002	NB	2010	3-23	82	A323A.003	NB	2034	3-23	82
A323A.004	NB	2056	3-23	82	A323A.005	NB	2117	3-23	82
A323A.006	NB	2138	3-23	82	A323A.007	NB	2205	3-23	82
A323B.001	NB	2235	3-23	82	A323B.002	NB	0003	3-24	83
A323B.003	NB	0024	3-24	83	A323B.004	NB	0045	3-24	83
A323B.005	NB	0104	3-24	83	A323B.006	NB	0123	3-24	83
A323B.007	NB	0142	3-24	83	A323C.001	NB	0203	3-24	83
A323C.002	NB	0227	3-24	83	A323C.003	NB	0235	3-24	83
A323C.004	NB	0243	3-24	83	A323C.005	NB	0246	3-24	83
A323C.006	NB	0250	3-24	83	A323C.007	NB	0254	3-24	83
A323C.008	NB	0258	3-24	83	A323C.009	NB	0302	3-24	83
A323C.010	NB	0306	3-24	83	A324A.001	NB	1922	3-24	83
A324A.002	NB	1934	3-24	83	A324A.003	NB	1951	3-24	83
A324A.004	NB	2003	3-24	83	A324A.005	NB	2015	3-24	83
A324A.006	NB	2027	3-24	83	A324A.007	NB	2043	3-24	83
A324A.008	NB	2045	3-24	83	A324A.009	NB	2100	3-24	83
A324A.010	NB	2118	3-24	83	A324A.011	NB	2130	3-24	83
A324A.012	NB	2141	3-24	83	A324A.013	NB	2150	3-24	83
A324A.014	NB	2201	3-24	83	A324A.015	NB	2211	3-24	83
A324B.001	NB	2230	3-24	83	A324B.002	NB	2240	3-24	83
A324B.003	NB	2328	3-24	83	A324B.004	NB	2338	3-24	83
A324B.005	NB	2350	3-24	83	A324B.006	NB	0012	3-25	84
A324B.007	NB	0031	3-25	84	A324B.008	NB	0053	3-25	84
A325A.009	NB	0045	3-26	85	A325A.010	NB	0055	3-26	85
A326A.001	NB	1952	3-26	85	A326A.002	NB	2028	3-26	85
A326A.003	NB	2059	3-26	85	A326A.004	NB	2218	3-26	85
A326A.005	NB	2255	3-26	85	A326A.006	NB	2358	3-26	85
A326B.001	NB	0453	3-27	86	A326B.002	NB	0521	3-27	86
A326B.003	NB	0544	3-27	86	A326B.004	NB	0602	3-27	86
A326B.005	NB	0623	3-27	86	A326B.006	NB	0644	3-27	86
A326C.001	NB	0707	3-27	86	A326C.002	NB	0727	3-27	86
A326C.003	NB	0747	3-27	86	A327A.001	NB	1815	3-27	86
A327A.002	NB	1836	3-27	86	A327A.003	NB	1855	3-27	86
A327A.004	NB	1914	3-27	86	A327A.005	NB	1932	3-27	86
A327A.006	NB	1951	3-27	86	A327B.001	NB	0220	3-28	87
A327B.002	NB	0242	3-28	87	A327B.003	NB	0454	3-28	87
A327B.004	NB	0512	3-28	87	A327B.005	NB	0532	3-28	87
A327B.006	NB	0552	3-28	87	A328A.001	NB	1754	3-28	87
A328A.002	NB	1812	3-28	87	A328A.003	NB	1836	3-28	87
A328A.004	NB	1846	3-28	87	A328A.005	NB	1852	3-28	87
A328A.006	NB	1901	3-28	87	A328A.008	NB	1918	3-28	87
A328A.009	NB	1941	3-28	87	A328A.010	NB	1958	3-28	87
A328A.011	NB	2015	3-28	87	A328A.012	NB	2034	3-28	87
A328A.013	NB	2243	3-28	87	A328A.014	NB	2302	3-28	87

drop number	unit	time GMT	Cal date	Julian day	drop number	unit	time GMT	Cal date	Julian day
A328A.015	NB	2328	3-28	87	A328A.016	NB	0011	3-29	88
A328A.017	NB	0034	3-29	88	A328A.018	NB	0057	3-29	88
A328A.019	NB	0120	3-29	88	A328A.020	NB	0139	3-29	88
A328A.021	NB	0205	3-29	88	A328A.022	NB	0236	3-29	88
A329A.001	MC	2237	3-29	88	A329A.002	MC	2302	3-29	88
A329A.003	MC	2324	3-29	88	A329A.004	MC	0014	3-30	89
A329A.005	MC	0041	3-30	89	A329A.006	MC	0105	3-30	89
A329A.007	MC	0128	3-30	89	A329B.001	MC	0150	3-30	89
A329B.002	MC	0213	3-30	89	A329B.003	MC	0232	3-30	89
A329B.004	MC	0401	3-30	89	A329B.005	MC	0424	3-30	89
A329B.006	MC	0448	3-30	89	A329C.001	NB	0607	3-30	89
A329C.002	NB	0627	3-30	89	A330A.001	MC	1803	3-30	89
A330A.002	MC	1850	3-30	89	A330A.003	MC	1900	3-30	89
A330A.004	MC	1950	3-30	89	A330A.005	MC	2021	3-30	89
A330A.006	MC	2027	3-30	89	A330B.001	MC	2209	3-30	89
A330B.002	MC	2230	3-30	89	A330B.003	MC	2255	3-30	89
A330B.004	MC	2317	3-30	89	A330B.005	MC	2340	3-30	89
A330B.006	MC	2359	3-30	89	A330C.001	NB	0143	3-31	90
A330C.002	NB	0258	3-31	90	A331A.001	MC	0304	4-01	91
A331A.002	MC	0429	4-01	91	A331A.003	MC	0456	4-01	91
A331A.004	MC	0525	4-01	91	A331A.005	MC	0545	4-01	91
A331A.006	MC	0616	4-01	91	A401A.001	NB	2014	4-01	91
A401A.002	NB	2035	4-01	91	A401A.003	MC	2053	4-01	91
A401A.004	NB	2230	4-01	91	A401A.005	NB	2252	4-01	91
A401A.006	NB	2311	4-01	91	A401B.001	NB	0009	4-02	92
A401B.002	NB	0028	4-02	92	A401B.003	MC	0227	4-02	92
A401B.004	MC	0244	4-02	92	A401B.005	MC	0300	4-02	92
A401B.006	MC	0402	4-02	92	A401B.007	MC	0419	4-02	92
A401B.008	MC	0437	4-02	92	A401B.009	MC	0452	4-02	92
A401B.010	MC	0506	4-02	92	A401B.011	MC	0521	4-02	92
A401B.012	MC	0540	4-02	92	A401C.001	MC	0559	4-02	92
A401C.002	MC	0623	4-02	92	A401C.003	MC	0645	4-02	92
A401C.004	MC	0706	4-02	92	A402A.001	NB	1910	4-02	92
A402A.002	NB	1944	4-02	92	A402A.003	NB	2007	4-02	92
A402A.004	NB	2235	4-02	92	A402A.005	NB	2313	4-02	92
A402A.006	NB	2323	4-02	92	A402A.007	NB	2343	4-02	92
A402B.001	MC	0152	4-03	93	A402B.002	MC	0206	4-03	93
A402B.003	MC	0220	4-03	93	A402B.004	MC	0252	4-03	93
A402B.006	MC	0425	4-03	93	A402B.007	MC	0440	4-03	93
A403A.001	MC	2011	4-03	93	A403A.002	MC	2027	4-03	93
A403A.003	MC	2048	4-03	93	A403A.004	MC	2217	4-03	93
A403A.005	MC	2229	4-03	93	A403A.006	MC	2238	4-03	93
A403A.007	MC	2307	4-03	93	A403A.008	MC	2315	4-03	93
A403A.009	MC	2323	4-03	93	A403A.010	MC	2331	4-03	93
A403A.011	MC	2345	4-03	93	A403A.012	MC	2353	4-03	93
A403A.013	MC	0001	4-04	94	A403A.014	MC	0009	4-04	94
A403A.015	MC	0018	4-04	94	A403A.016	MC	0025	4-04	94
A403A.017	MC	0033	4-04	94	A403A.018	MC	0041	4-04	94
A403A.019	MC	0051	4-04	94	A403A.020	MC	0058	4-04	94
A403A.021	MC	0106	4-04	94	A403A.022	MC	0113	4-04	94

drop number	unit	time GMT	Cal date	Julian day	drop number	unit	time GMT	Cal date	Julian day
A417A.001	NB	1837	4-17	107	A417A.002	NB	1849	4-17	107
A417A.003	NB	1909	4-17	107	A417A.004	NB	1915	4-17	107
A417A.005	NB	1922	4-17	107	A417A.006	NB	1929	4-17	107
A417A.007	NB	1937	4-17	107	A417A.008	NB	1944	4-17	107
A417A.009	NB	1952	4-17	107	A417A.010	NB	1959	4-17	107
A417A.011	NB	2006	4-17	107	A417A.012	NB	2014	4-17	107
A417A.013	NB	2028	4-17	107	A417B.001	NB	2056	4-17	107
A417B.002	NB	2114	4-17	107	A417B.003	NB	2125	4-17	107
A417B.004	NB	2135	4-17	107	A417B.005	NB	2144	4-17	107
A417B.006	NB	2154	4-17	107	A417B.007	NB	2203	4-17	107
A417B.008	NB	2212	4-17	107	A417B.009	NB	2220	4-17	107
A417B.010	NB	2229	4-17	107	A417B.011	NB	2237	4-17	107
A417B.012	NB	2246	4-17	107	A417B.013	NB	2254	4-17	107
A417C.001	NB	2324	4-17	107	A417C.002	NB	2343	4-17	107
A417C.003	NB	2352	4-17	107	A417C.004	NB	0000	4-18	108
A417C.005	NB	0009	4-18	108	A417C.006	NB	0018	4-18	108
A417C.007	NB	0027	4-18	108	A417C.008	NB	0036	4-18	108
A417C.009	NB	0045	4-18	108	A417C.010	NB	0055	4-18	108
A417C.011	NB	0104	4-18	108	A417C.012	NB	0121	4-18	108
A417C.013	NB	0136	4-18	108	A417D.001	NB	0209	4-18	108
A417D.002	NB	0231	4-18	108	A417D.003	NB	0245	4-18	108
A417D.004	NB	0255	4-18	108	A417D.005	NB	0304	4-18	108
A417D.006	NB	0315	4-18	108	A417D.007	NB	0327	4-18	108
A417D.008	NB	0342	4-18	108	A417D.009	NB	0417	4-18	108
A417D.010	NB	0429	4-18	108	A417D.011	NB	0340	4-18	108
A417D.012	NB	0451	4-18	108	A417D.013	NB	0502	4-18	108
A417E.001	NB	0518	4-18	108	A417E.002	NB	0540	4-18	108
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A419C.017	NB	0334	4-20	110	A419C.018	NB	0343	4-20	110
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A419E.002	NB	0801	4-20	110	A419E.003	NB	0809	4-20	110
A419E.004	NB	0816	4-20	110	A419E.005	NB	0825	4-20	110
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A419E.012	NB	0916	4-20	110	A419E.013	NB	0923	4-20	110
A419E.014	NB	0930	4-20	110	A419E.015	NB	0937	4-20	110
A419E.016	NB	0945	4-20	110	A419E.017	NB	0952	4-20	110
A419E.018	NB	1000	4-20	110	A419E.019	NB	1008	4-20	110
A419E.020	NB	1017	4-20	110	A420A.001	MC	1834	4-20	110
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A421B.008	NB	0254	4-22	112	A421B.009	NB	0358	4-22	112
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A421C.011	NB	0640	4-22	112	A421C.012	NB	0650	4-22	112
A421C.013	NB	0659	4-22	112	A421D.001	NB	0728	4-22	112
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A421D.012	NB	0922	4-22	112	A421D.013	NB	0932	4-22	112
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A422B.003	NB	1319	4-22	112	A422B.004	NB	1329	4-22	112
A422B.005	NB	1338	4-22	112	A422B.006	NB	1346	4-22	112
A422B.007	NB	1355	4-22	112	A422B.008	NB	1404	4-22	112

drop number	unit	time GMT	Cal date	Julian day	drop number	unit	time GMT	Cal date	Julian day
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A422B.013	NB	1448	4-22	112	A422B.014	NB	1457	4-22	112
A422B.015	NB	1506	4-22	112	A422C.001	NB	1532	4-22	112
A422C.002	NB	1542	4-22	112	A422C.003	NB	1615	4-22	112
A422C.004	NB	1621	4-22	112	A422C.005	NB	1626	4-22	112
A422C.006	NB	1633	4-22	112	A422C.007	NB	1640	4-22	112
A422C.008	NB	1657	4-22	112	A422C.009	NB	1712	4-22	112
A422C.010	NB	1719	4-22	112	A422C.011	NB	1726	4-22	112
A422C.012	NB	1733	4-22	112	A422C.013	NB	1742	4-22	112
A422C.014	NB	1748	4-22	112	A422C.015	NB	1755	4-22	112
A422C.016	NB	1803	4-22	112	A422C.017	NB	1810	4-22	112
A422C.018	NB	1817	4-22	112	A422C.019	NB	1825	4-22	112
A422C.020	NB	1837	4-22	112	A422D.001	NB	1911	4-22	112
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A422D.014	NB	2059	4-22	112	A422D.015	NB	2105	4-22	112
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A422E.007	MC	2332	4-22	112	A422F.001	MC	2353	4-22	112
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A422G.008	MC	0243	4-23	113	A422G.009	MC	0309	4-23	113
A422G.010	MC	0316	4-23	113	A422G.011	MC	0322	4-23	113
A422G.012	MC	0328	4-23	113	A422G.013	MC	0336	4-23	113
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A422H.004	MC	0528	4-23	113	A422H.005	MC	0553	4-23	113
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A422J.003	MC	0938	4-23	113	A422J.004	NB	0958	4-23	113
A422J.005	NB	1013	4-23	113	A422J.006	NB	1021	4-23	113
A422J.007	NB	1030	4-23	113	A423A.001	NB	2240	4-23	113
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A423A.004	NB	0016	4-24	114	A423A.005	NB	0022	4-24	114
A423A.006	NB	0028	4-24	114	A423A.007	MC	0136	4-24	114
A423A.008	MC	0151	4-24	114	A423B.001	MC	0240	4-24	114
A423B.002	MC	0303	4-24	114	A423B.003	MC	0337	4-24	114

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A423C.005	MC	0610	4-24	114	A423C.006	MC	0625	4-24	114
A423C.007	MC	0637	4-24	114	A423D.001	MC	0703	4-24	114
A423D.002	MC	0727	4-24	114	A423D.003	MC	0753	4-24	114
A423E.001	MC	0845	4-24	114	A423E.002	MC	0847	4-24	114
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A424A.006	NB	1956	4-24	114	A424A.007	NB	2015	4-24	114
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A424B.003	MC	2140	4-24	114	A424B.004	MC	2155	4-24	114
A424B.005	MC	2226	4-24	114	A424B.006	MC	2243	4-24	114
A424C.001	MC	2301	4-24	114	A424C.002	MC	2327	4-24	114
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A424D.004	MC	0128	4-25	115	A424E.001	MC	0155	4-25	115
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A426A.003	NB	1736	4-26	116	A426A.004	NB	1754	4-26	116
A426A.005	NB	1810	4-26	116	A426A.006	NB	1827	4-26	116

## F. REFERENCES

Caldwell, D. R., T. M. Dillon, and J. N. Moum (1986): The Rapid-Sampling Vertical Profiler: An Evaluation. J. of Atmos. and Oceanic. Tech. 2(4), 615-625.

Head, M. J. (1983): The use of miniature four-electrode conductivity probes for high resolution measurement of turbulent density or temperature variations in salt-stratified water flows. PhD thesis, University of California, San Diego, 211 pp.

Osborn, T. R. and W. R. Crawford (1980): An airfoil probe for measuring turbulent velocity fluctuations in water. in Air-Sea Interactions, pp 369-386, Dobson, Hasse, and Davis, Ed., Plenum Press, 80lpp.

Shay, T. J. and M. C. Gregg (1986): Convectively driven turbulent mixing in the upper ocean. J. Phys. Oceanogr. 16(6), 1777-1798.

**OBSERVATIONS:****A. TEMPERATURE, SALINITY, AND SIGMA-T**

28

A323A.001

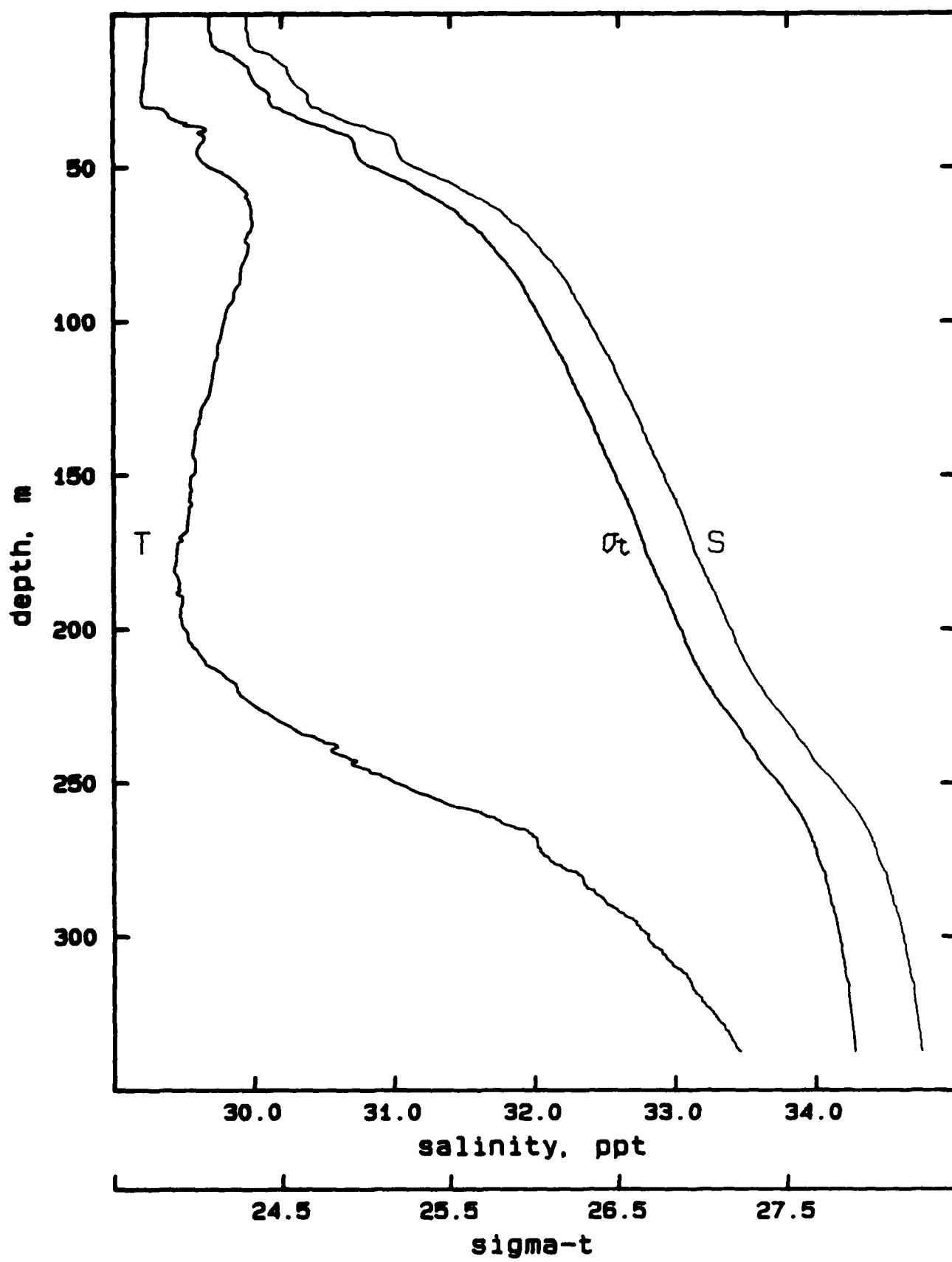
temperature

-1.25

-0.75

-0.25

0.25



29

A323B.001

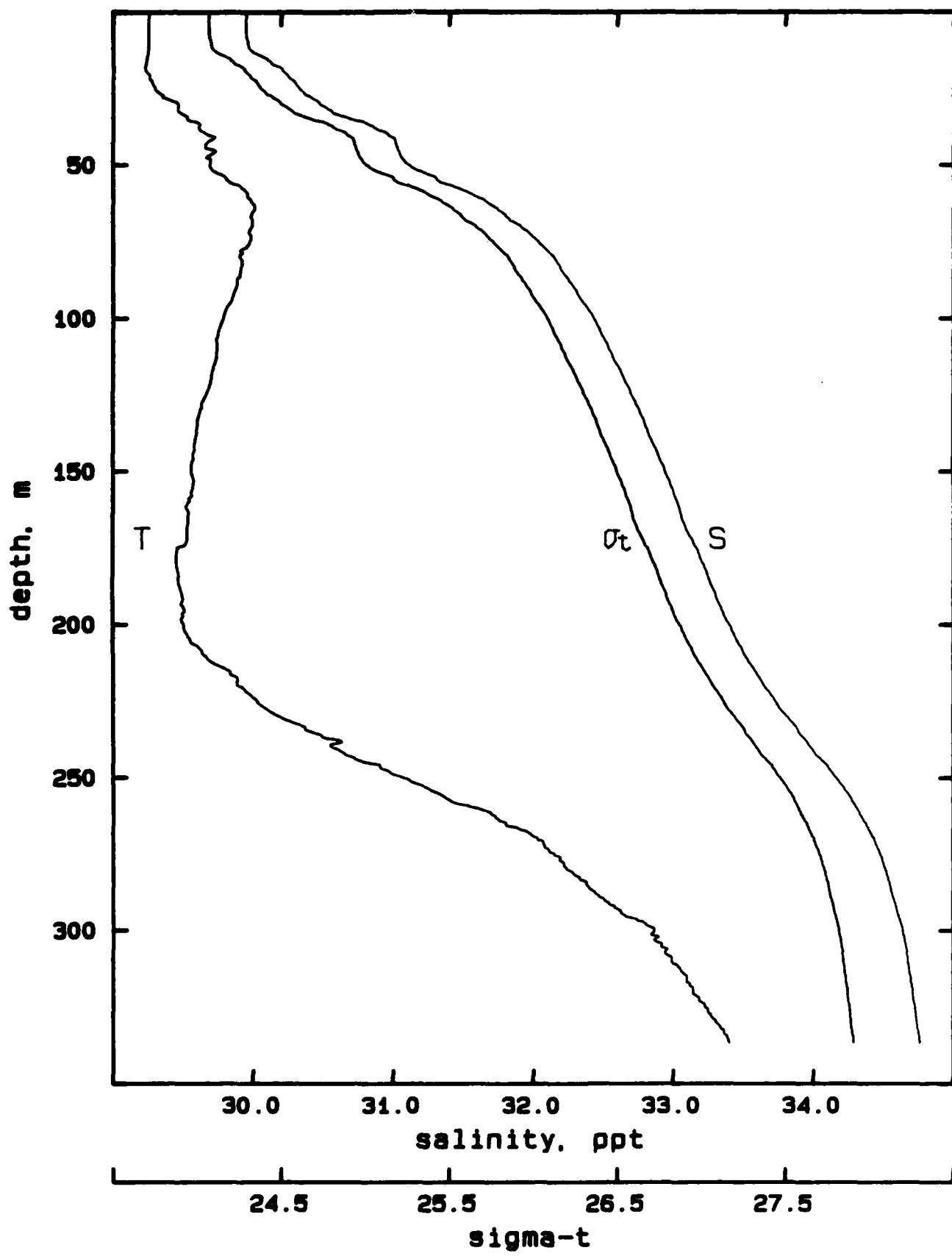
temperature

-1.25

-0.75

-0.25

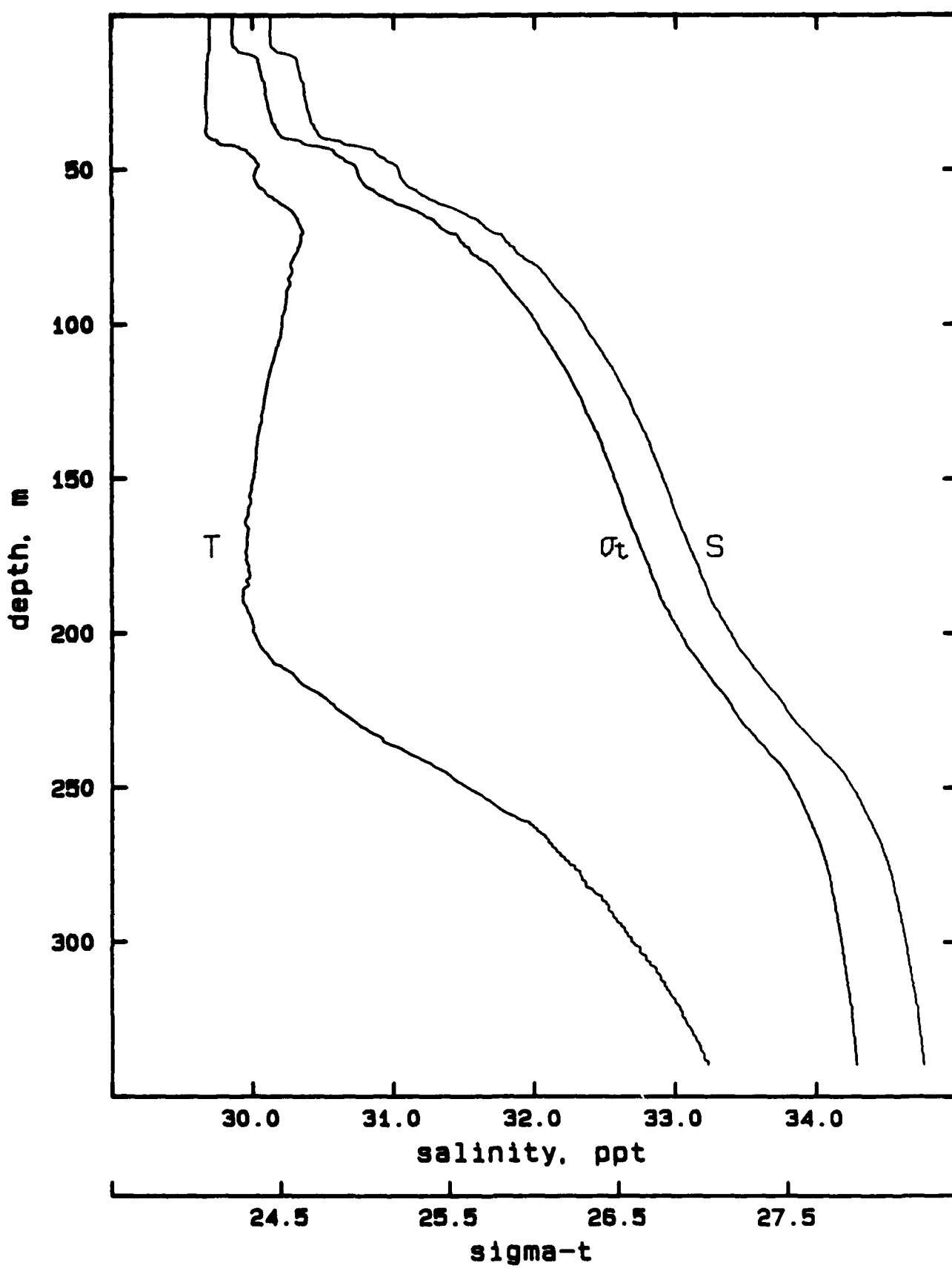
0.25



30  
A324B.005

temperature

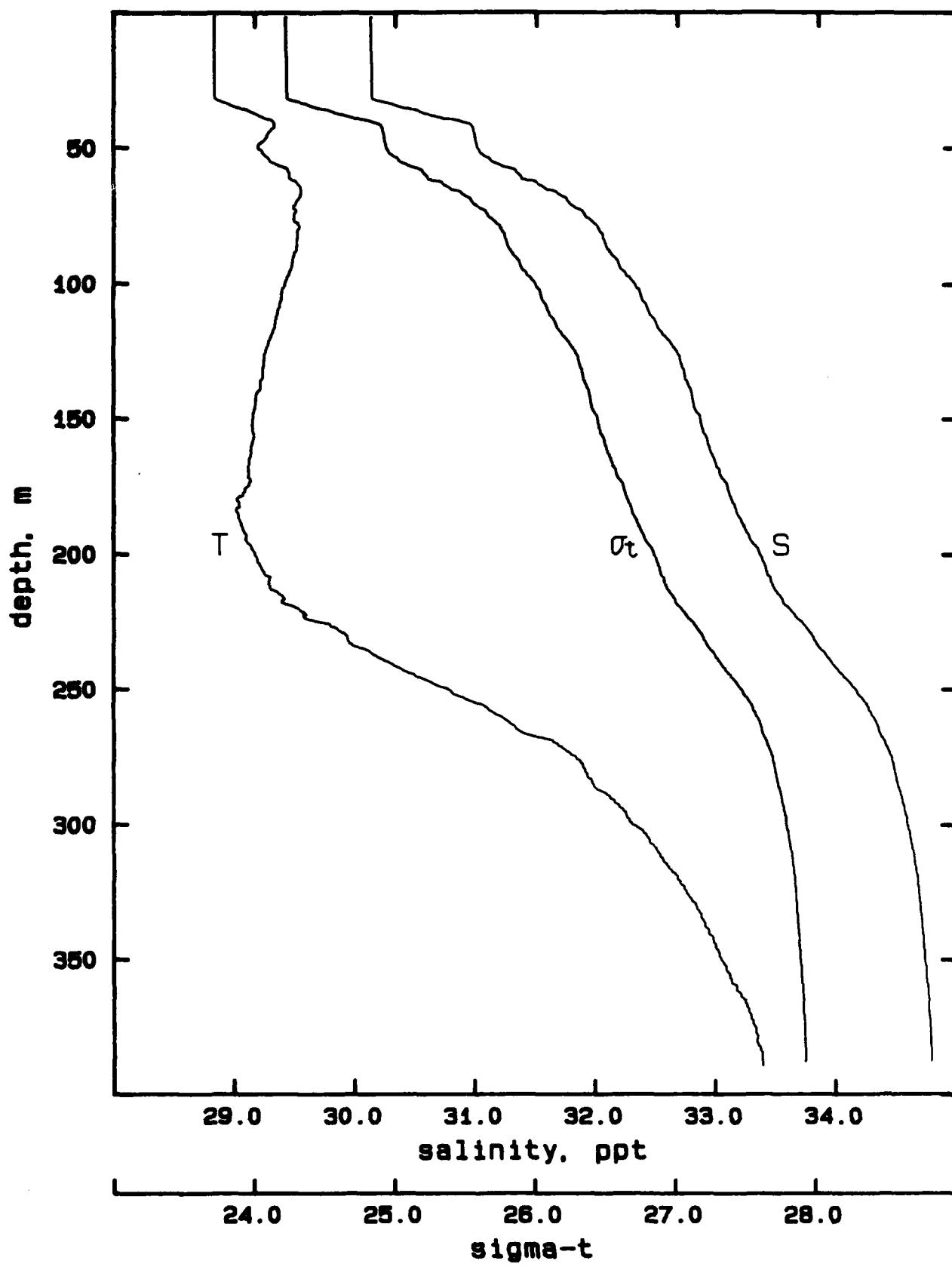
-1.5 -1.0 -0.5 -0.0 0.5

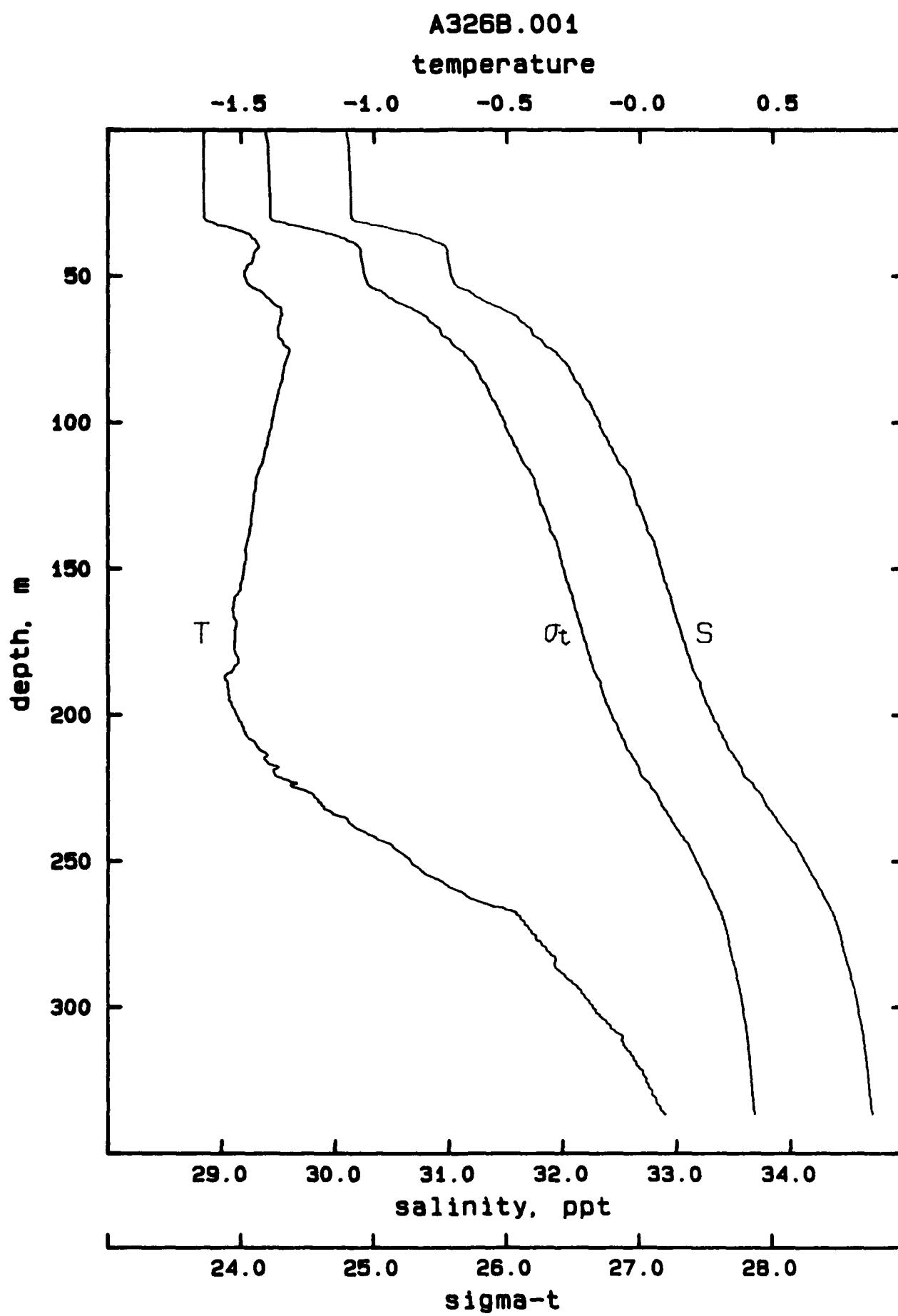


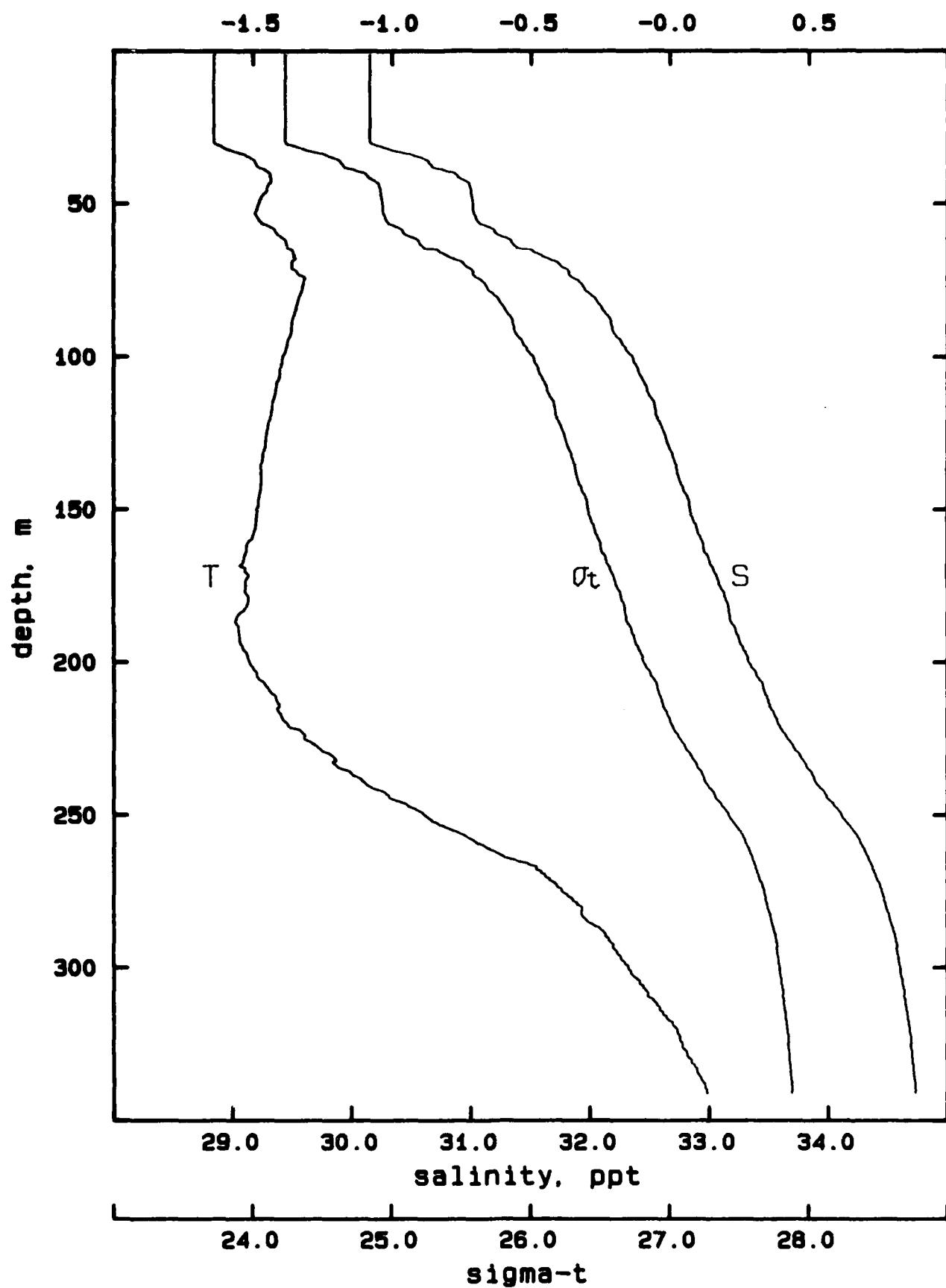
A326A.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5

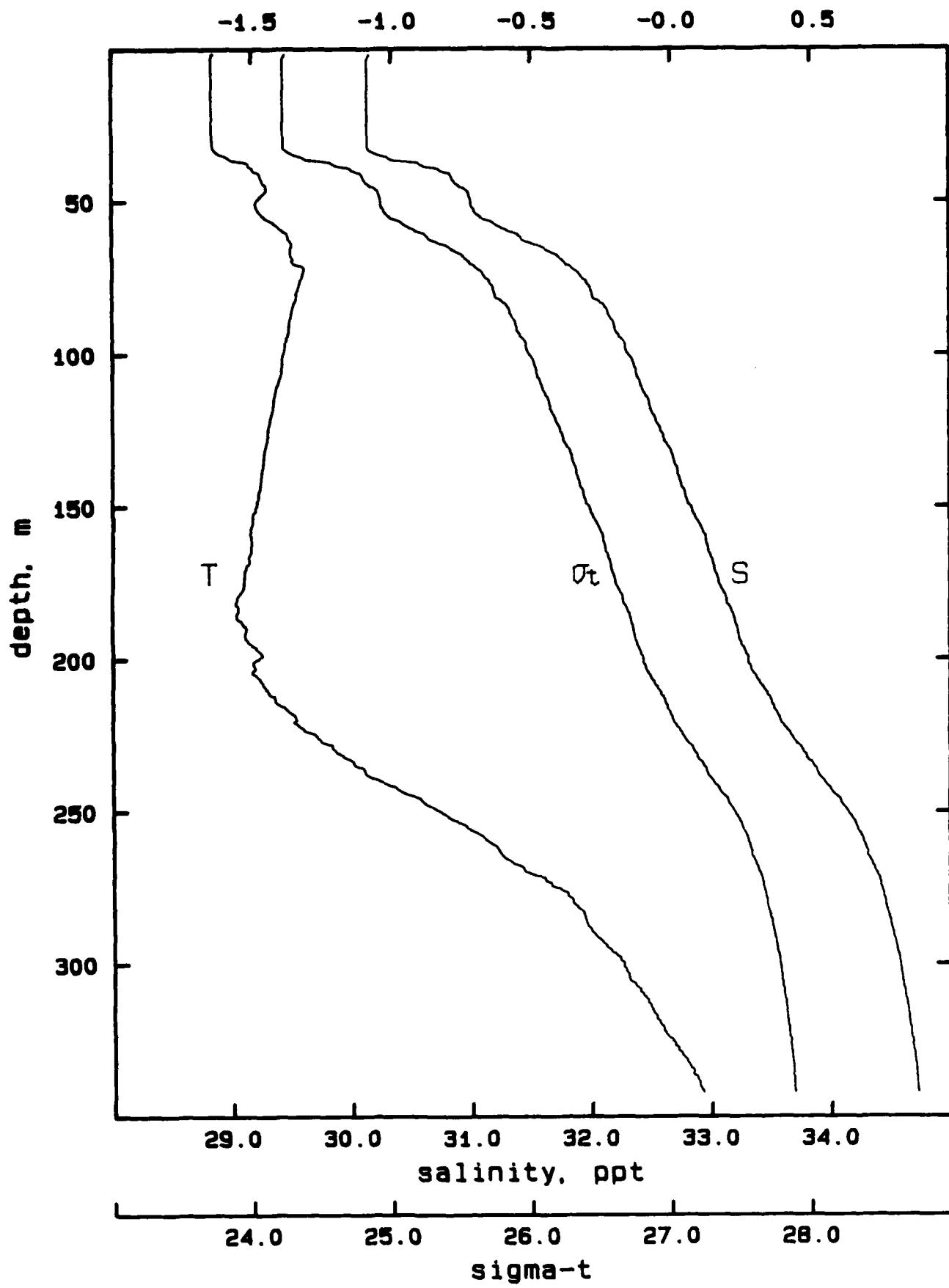




A326C.001  
temperature

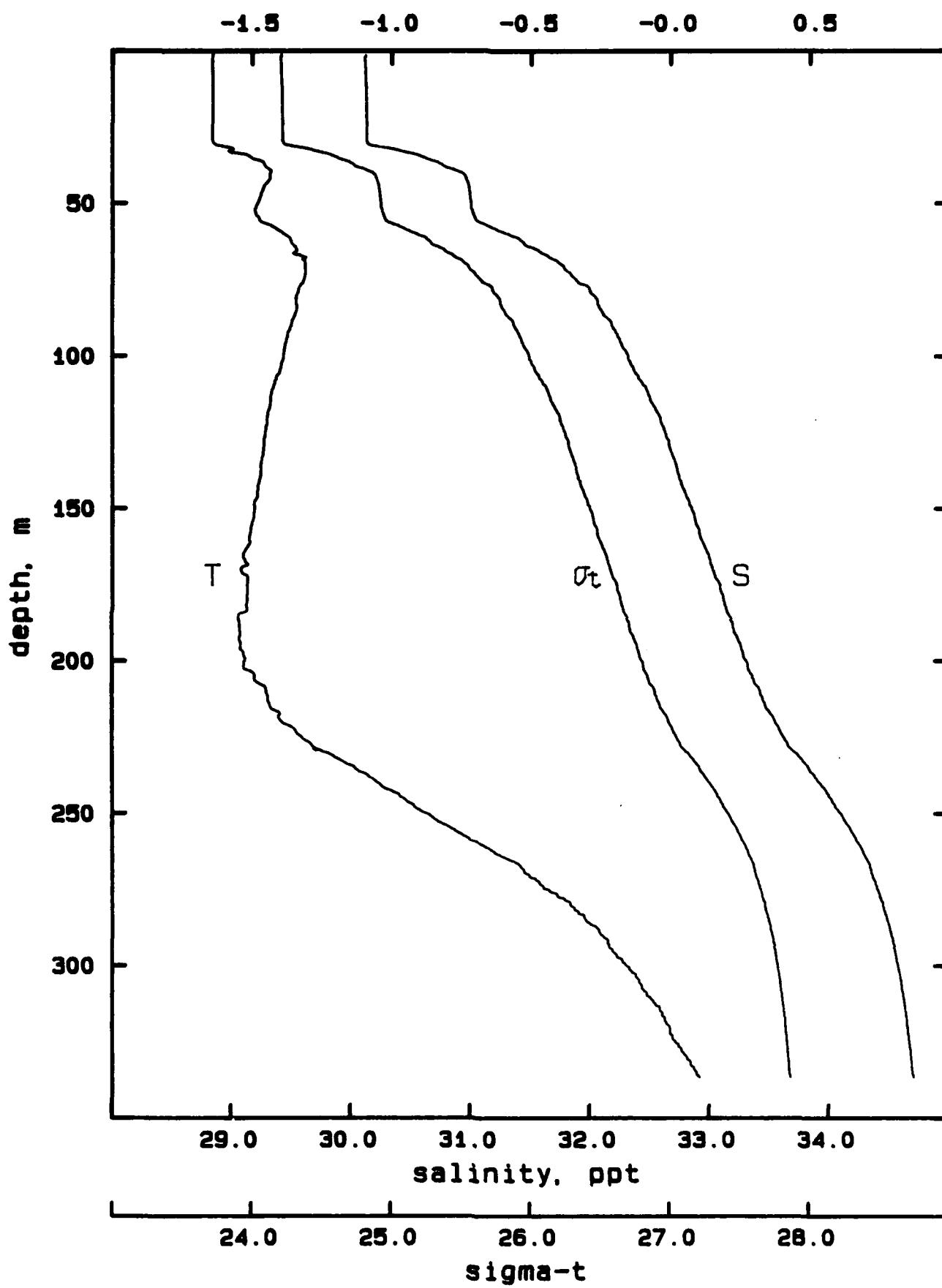
A327A .001

## temperature

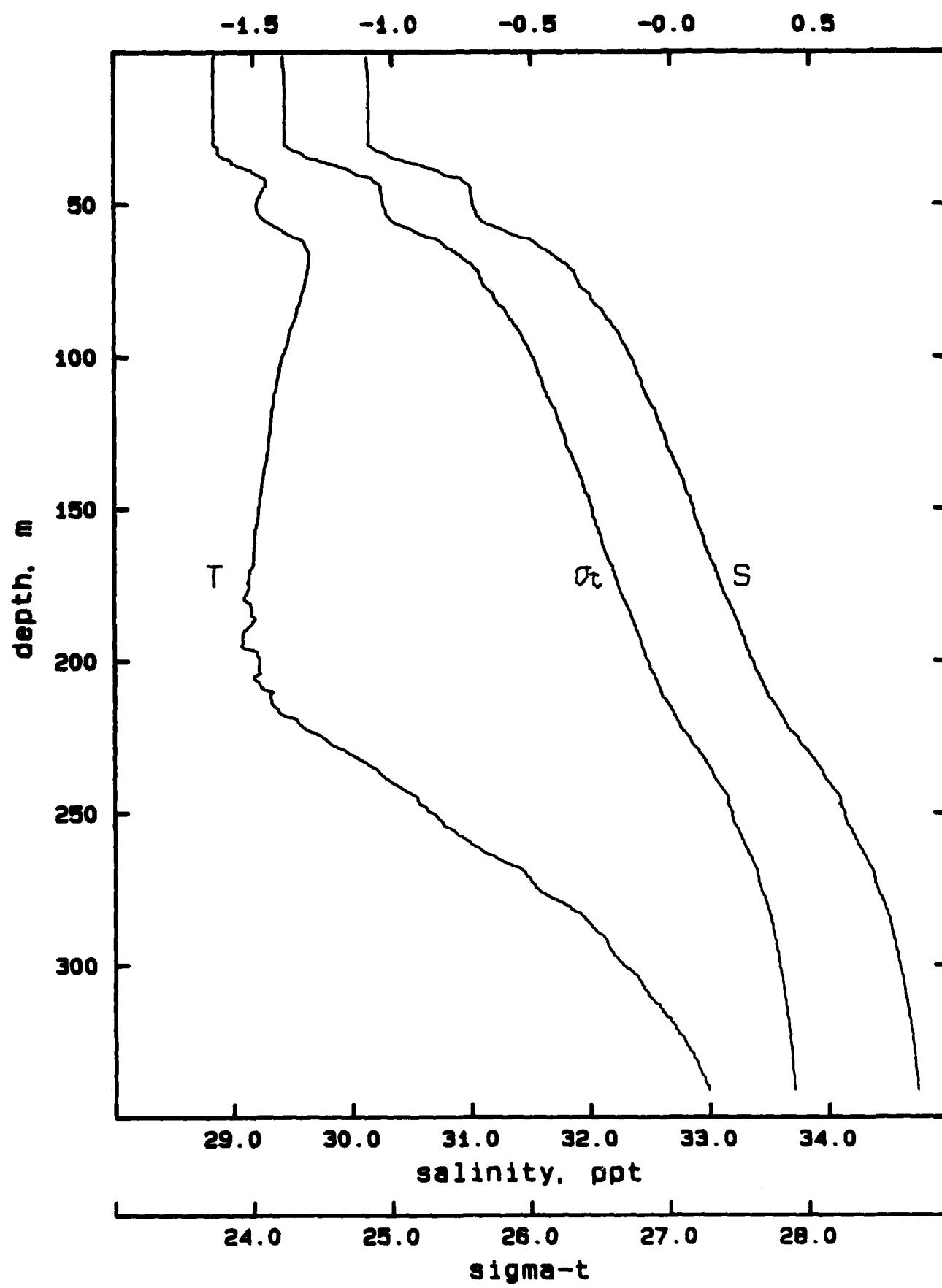


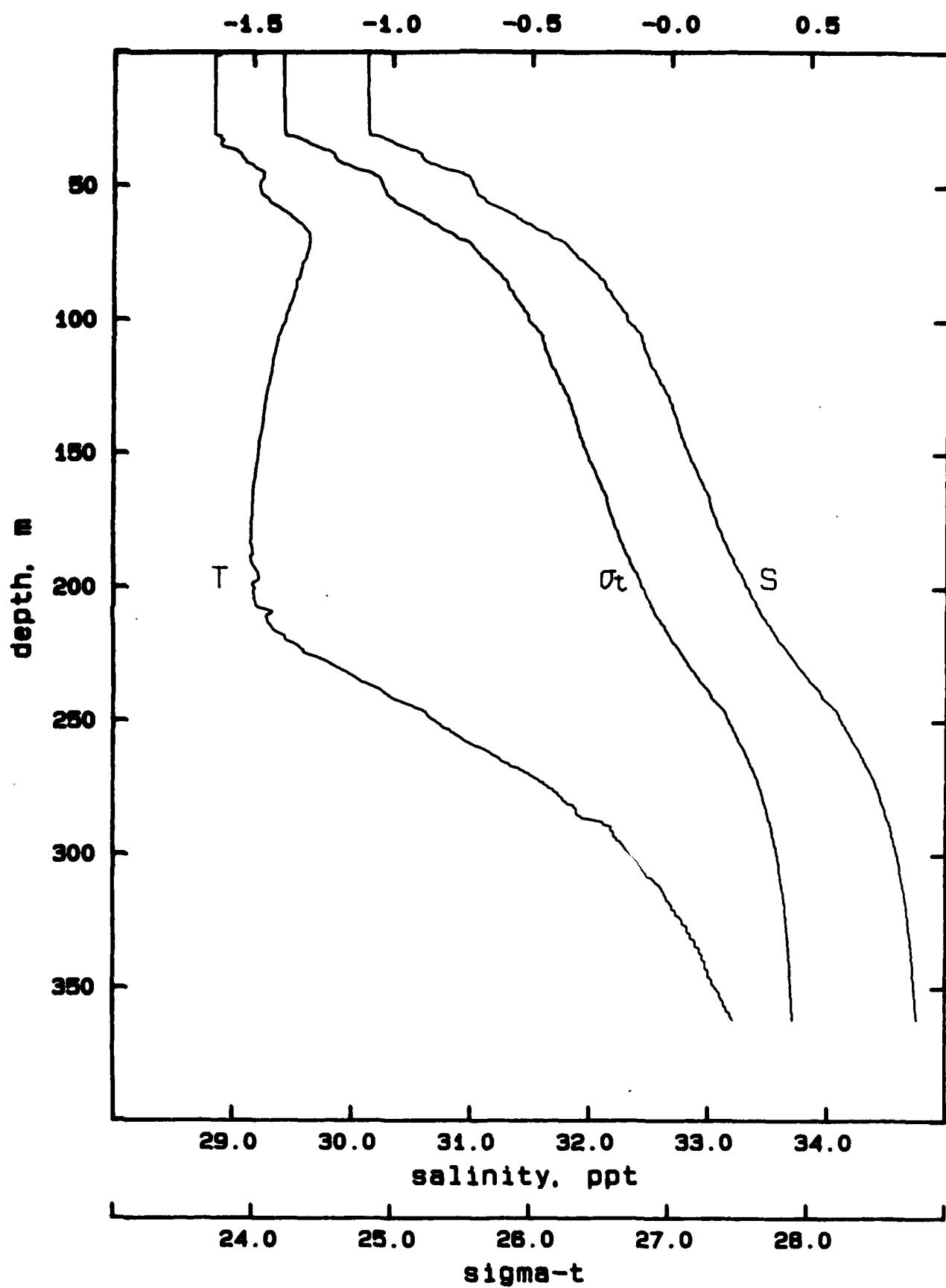
A327B.001

temperature



36  
A328A.001  
temperature

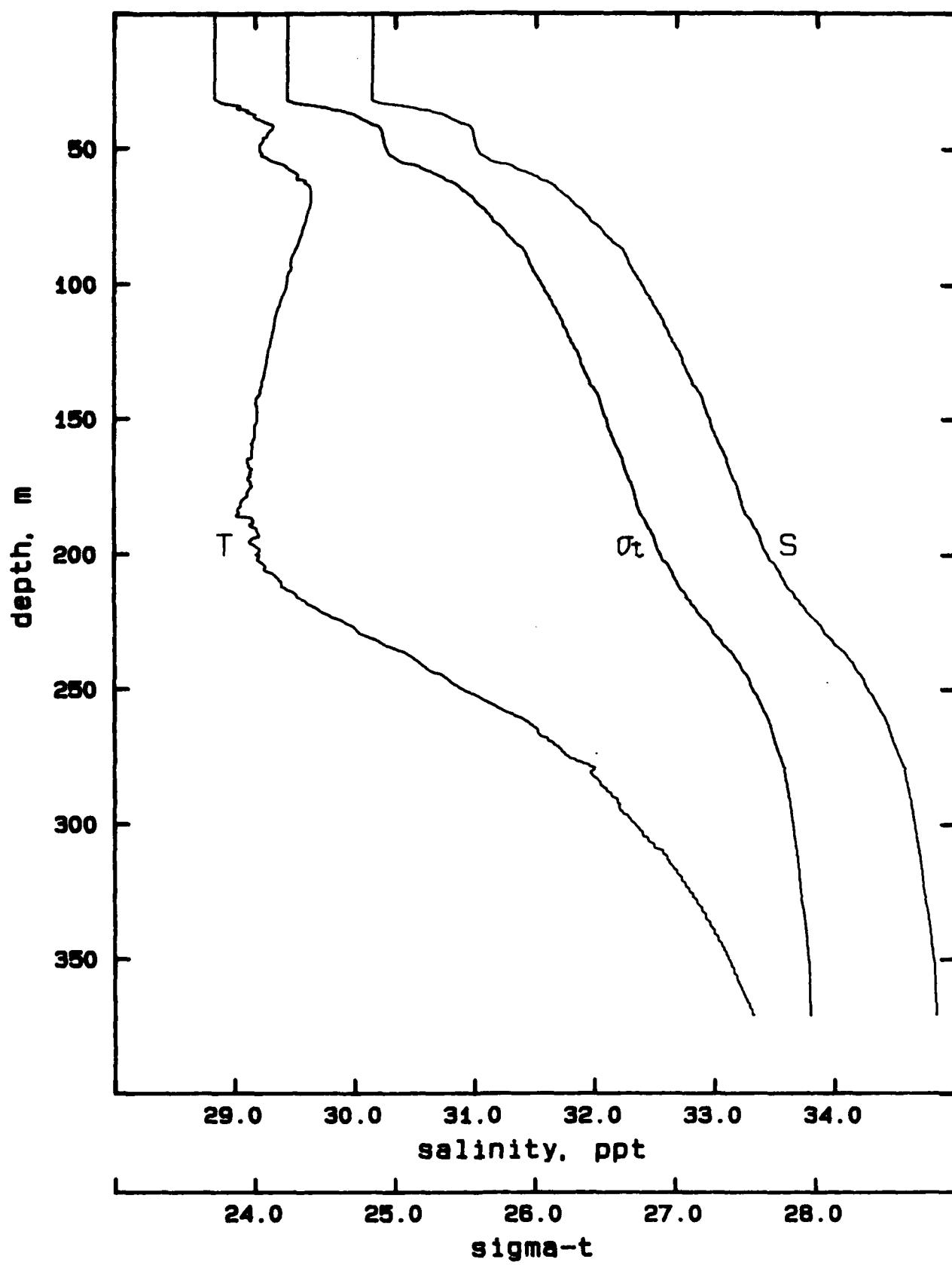


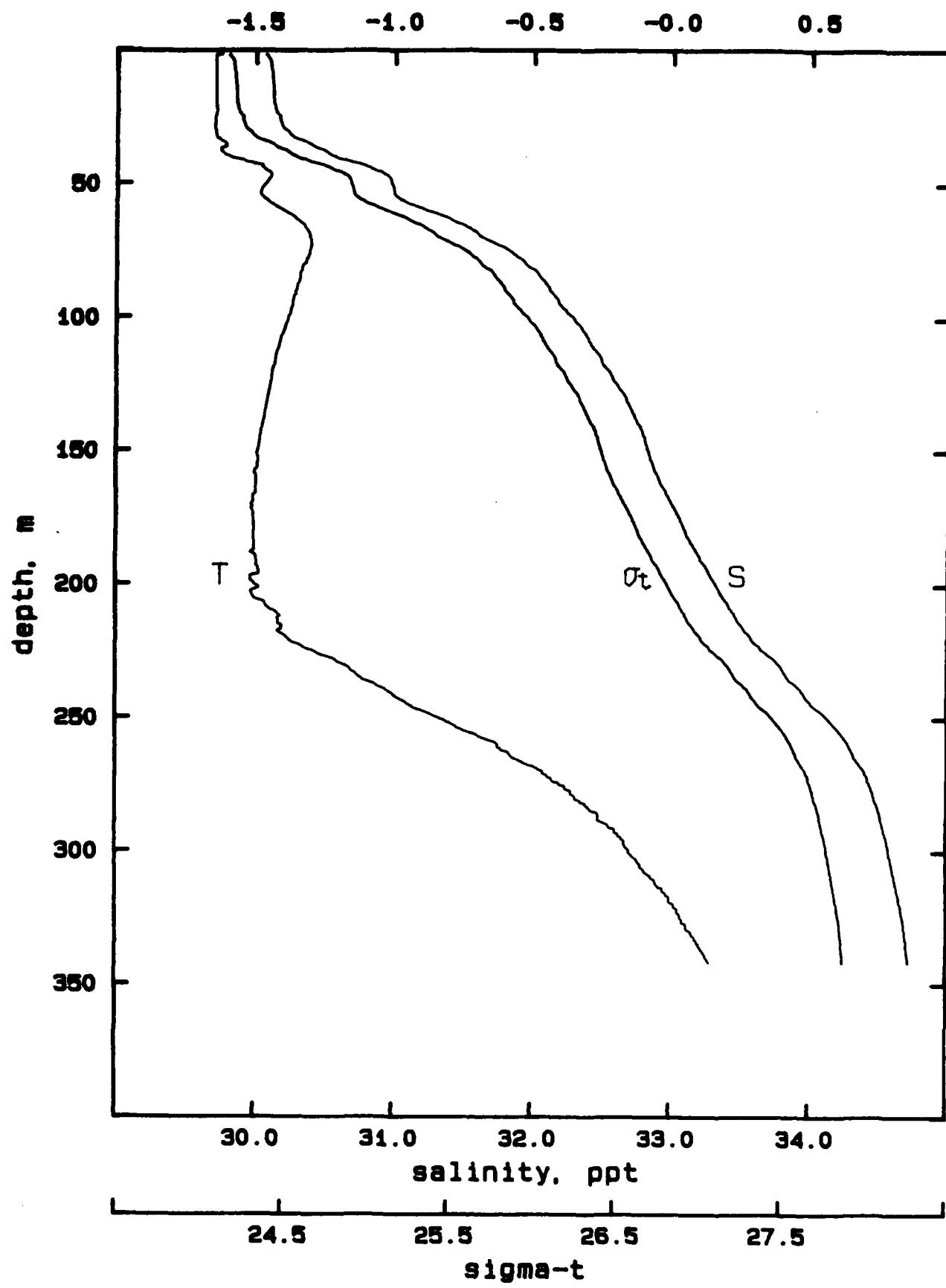
**A329C.001**  
**temperature**

A330C.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5



A401A.001  
temperature

40  
A402A.001

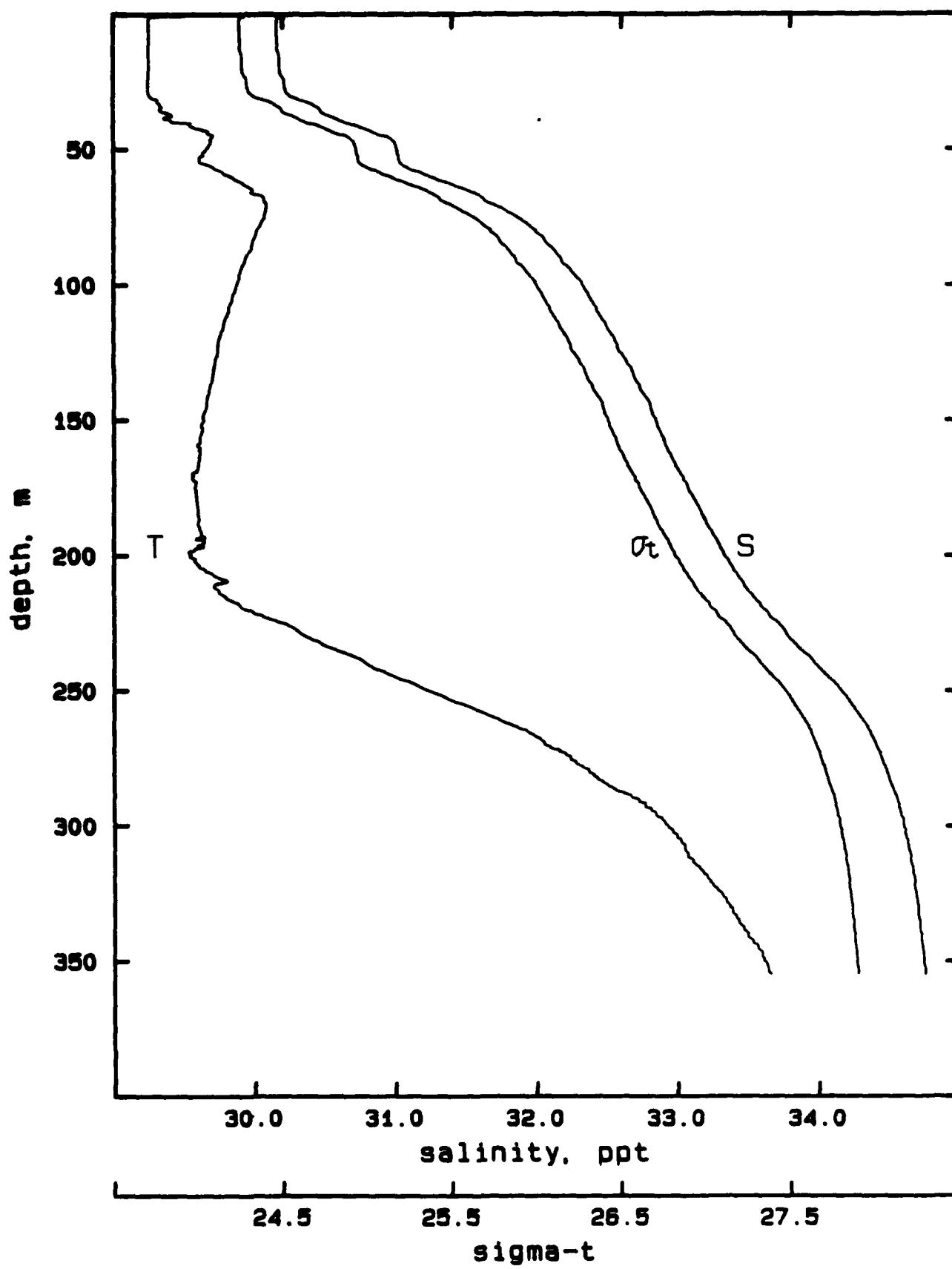
temperature

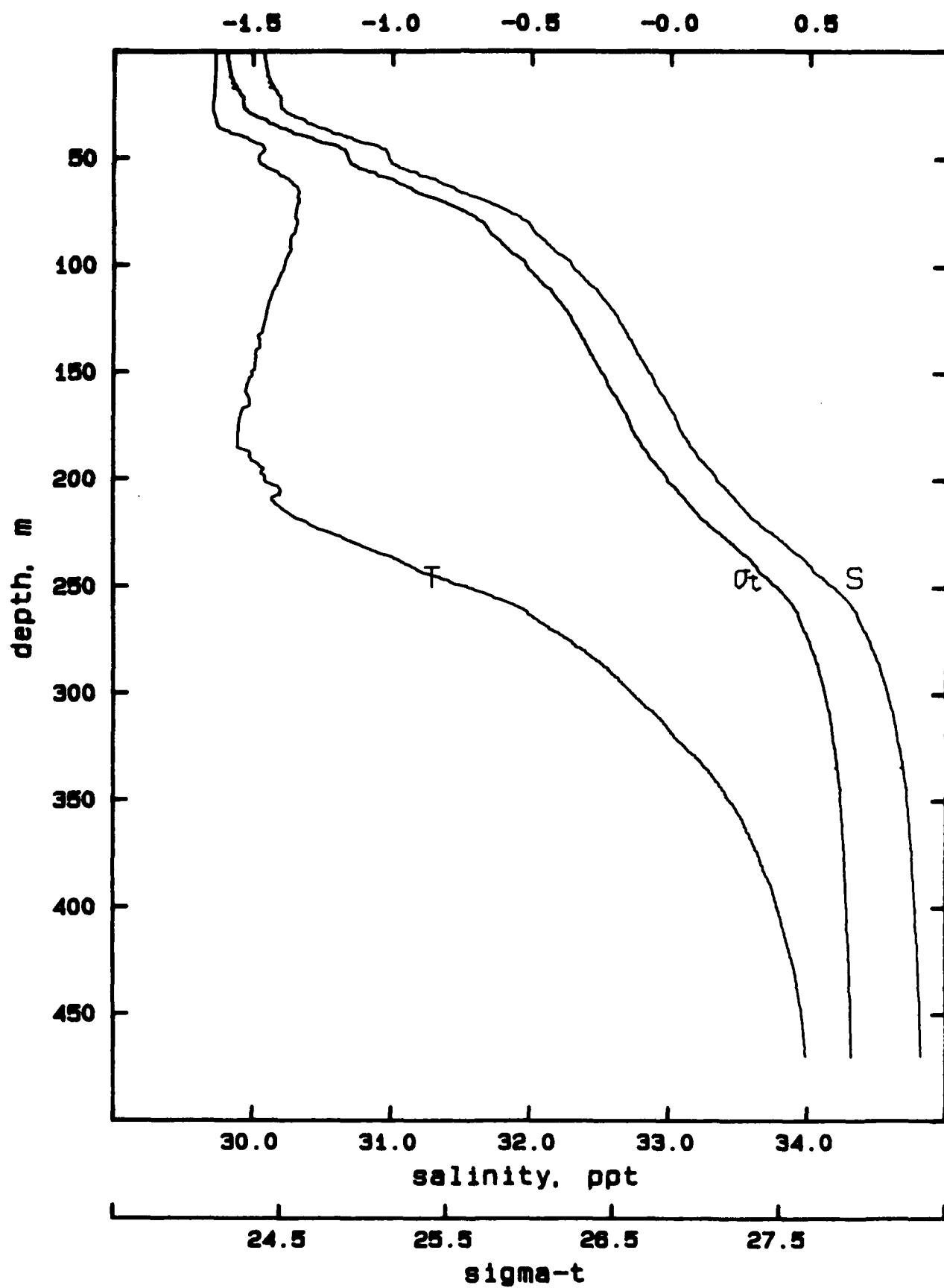
-1.25

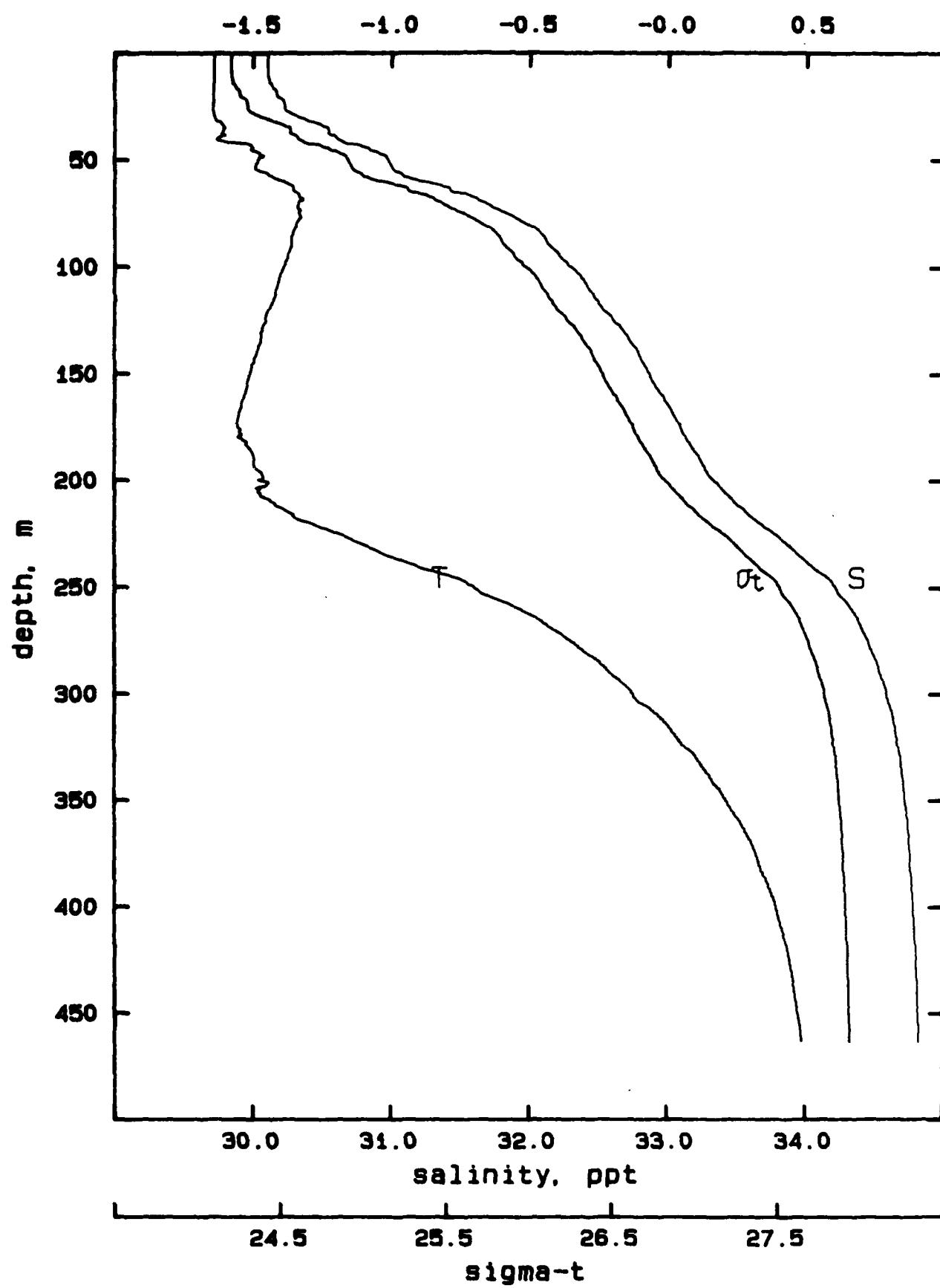
-0.75

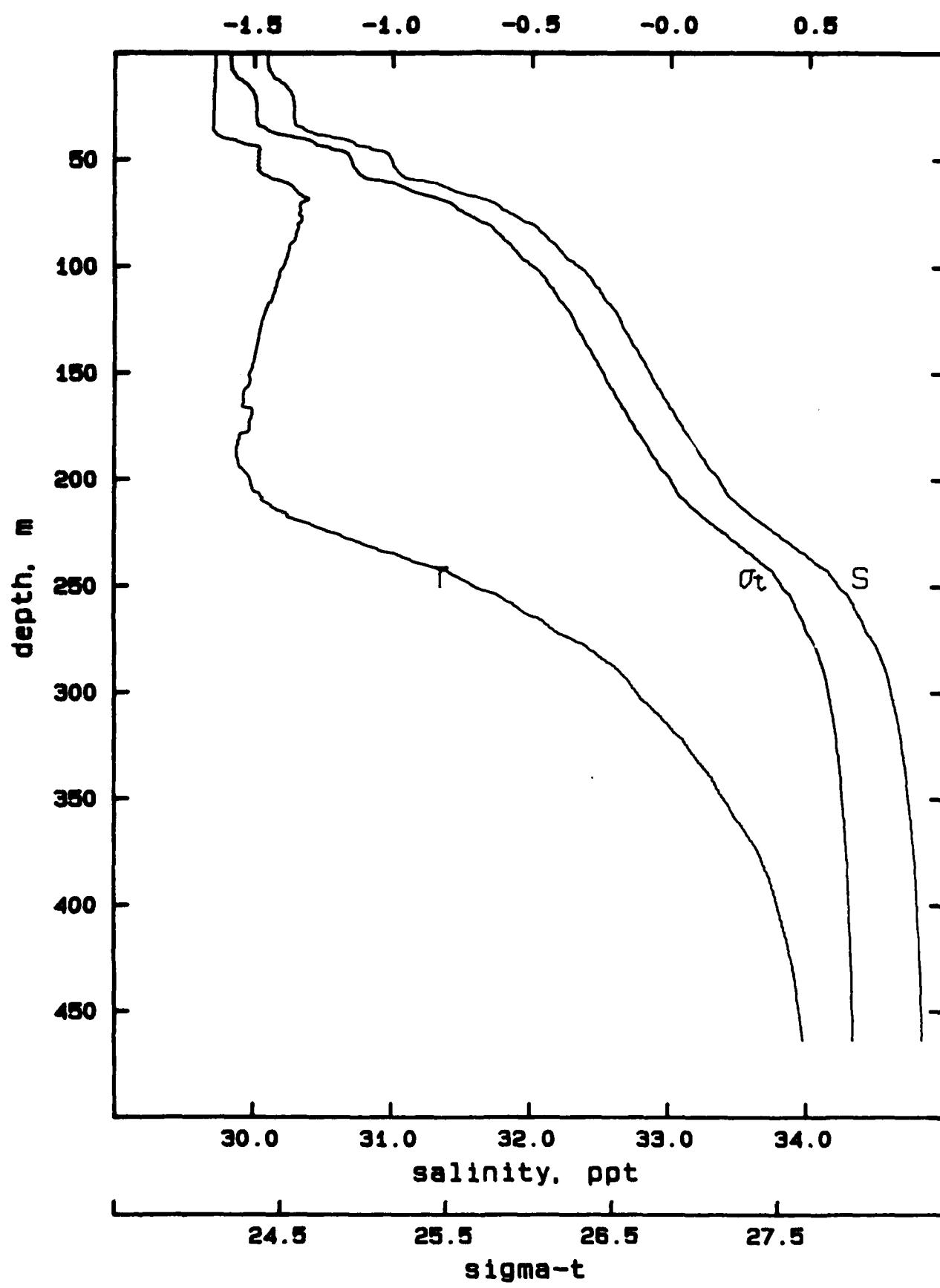
-0.25

0.25



A417A.001  
temperature

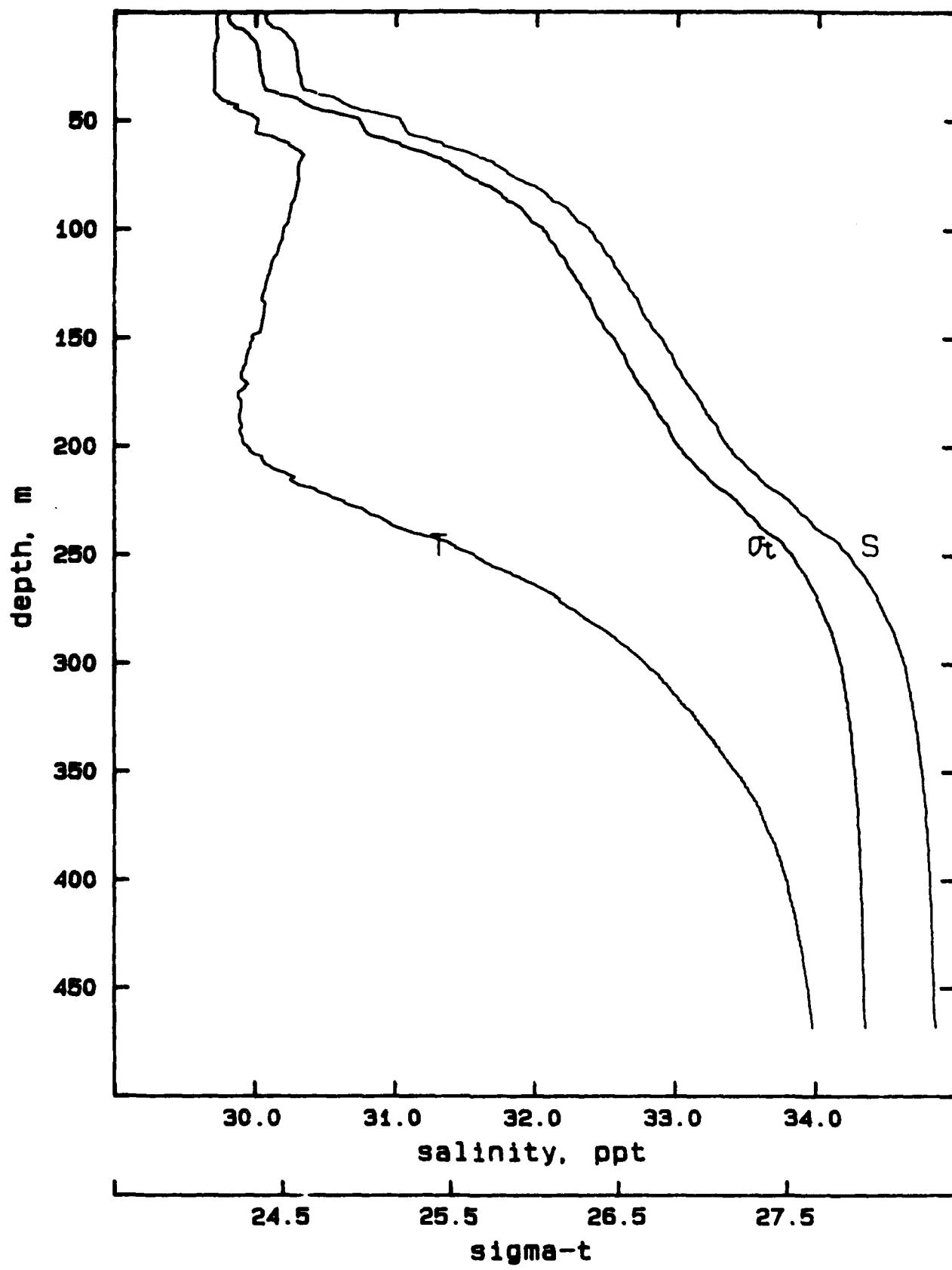
A417B.001  
temperature

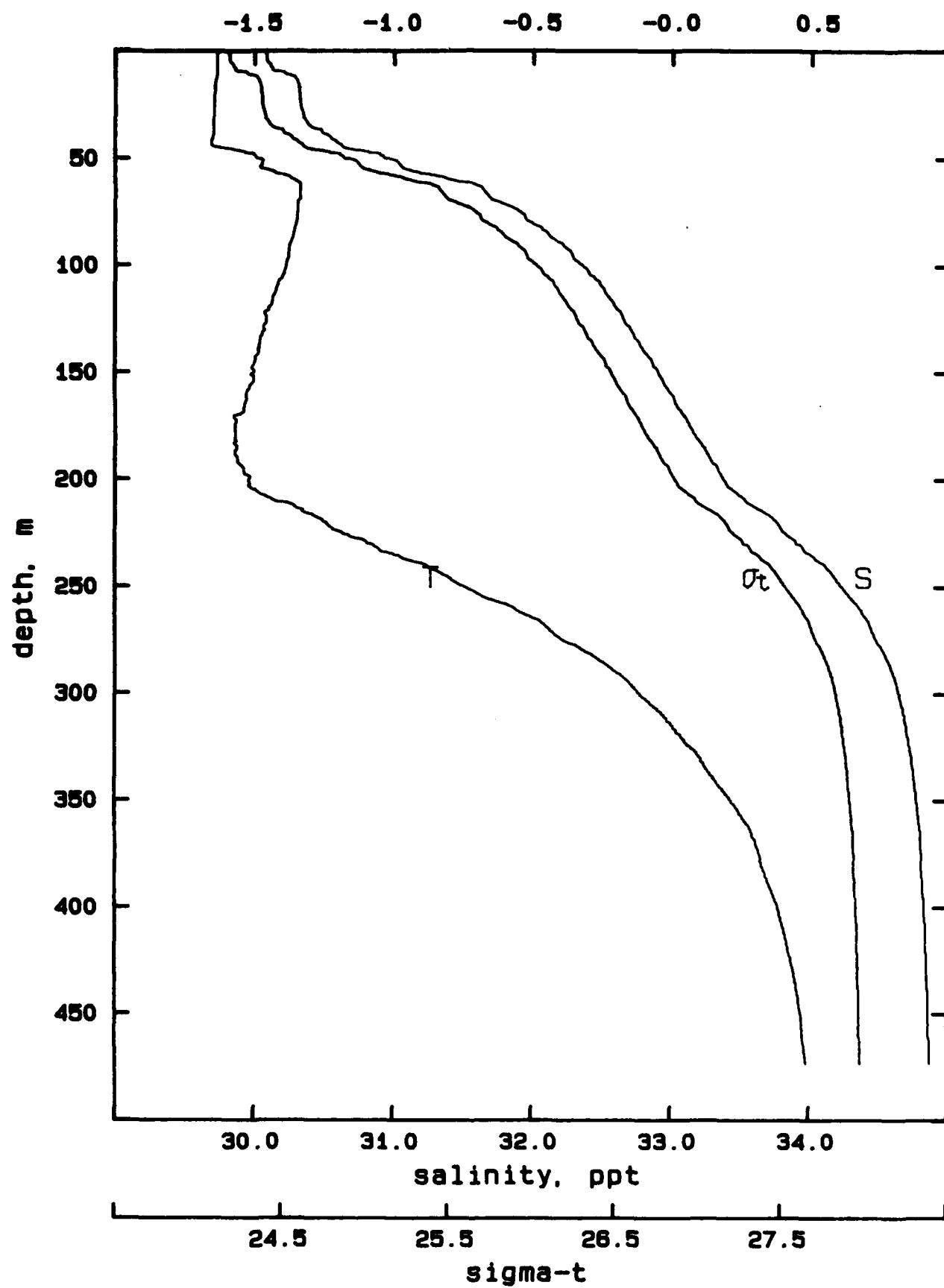
A417C.001  
temperature

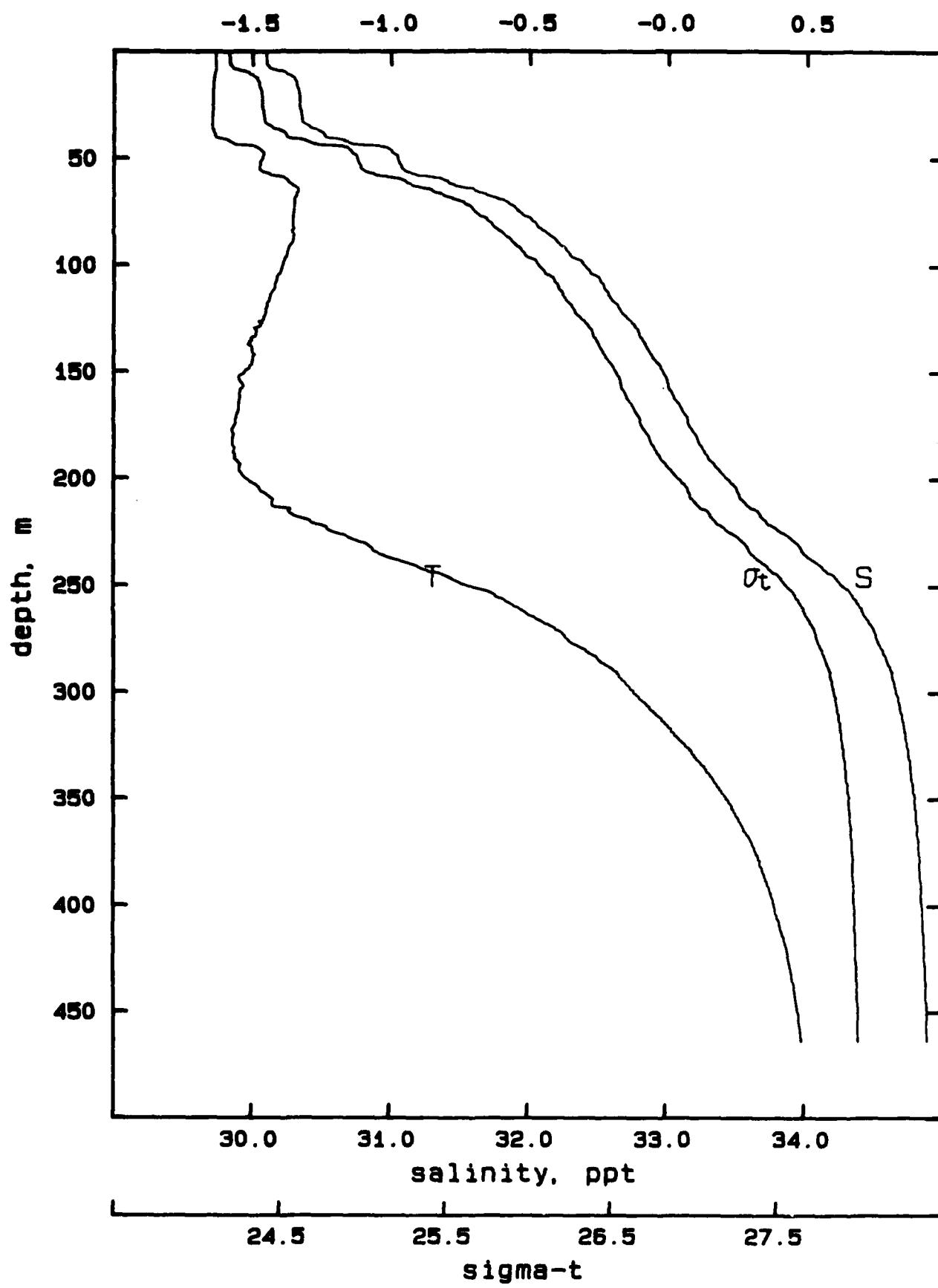
A417D.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5



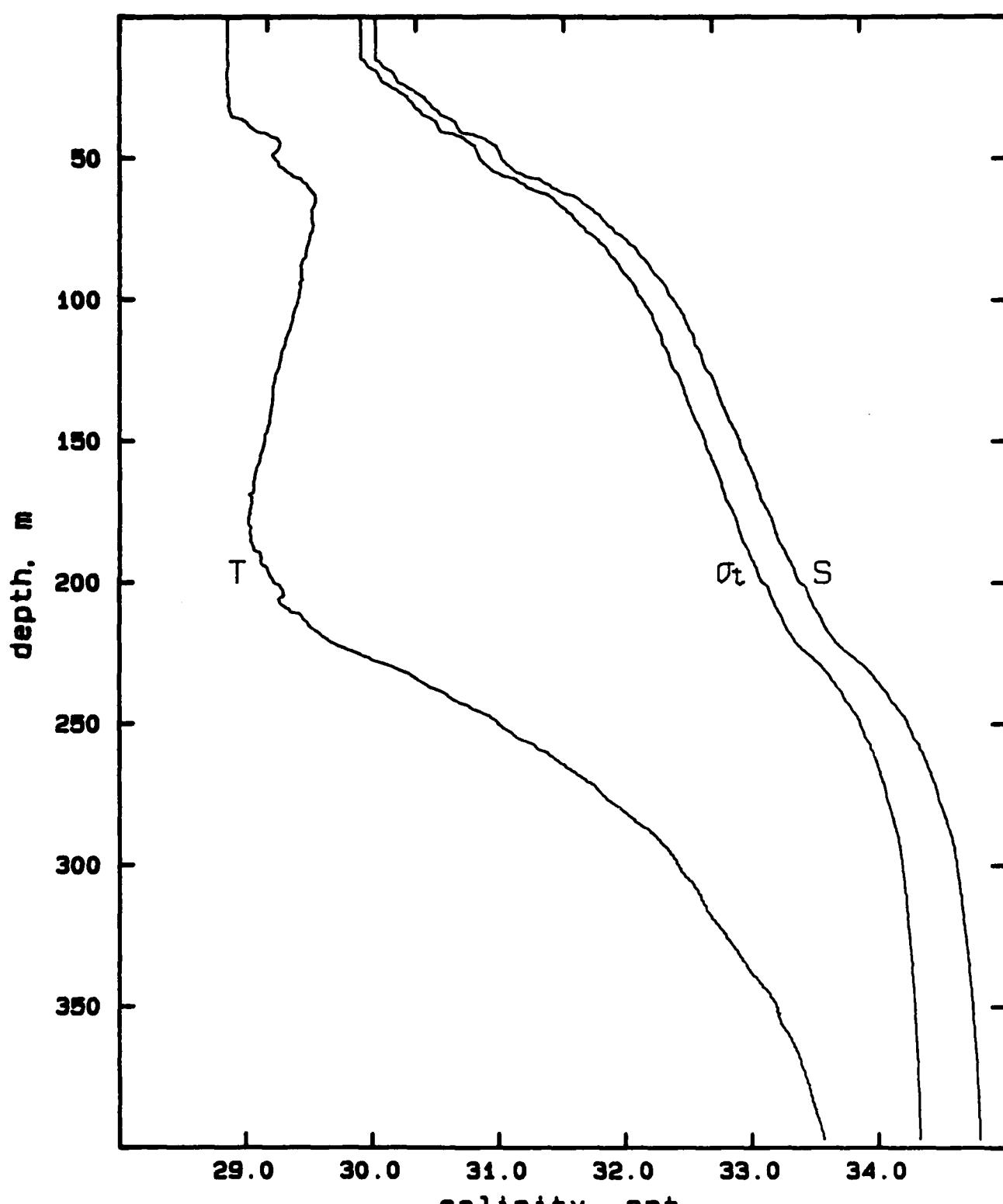
A417E.001  
temperature

A417F.001  
temperature

47  
A418A.003

temperature

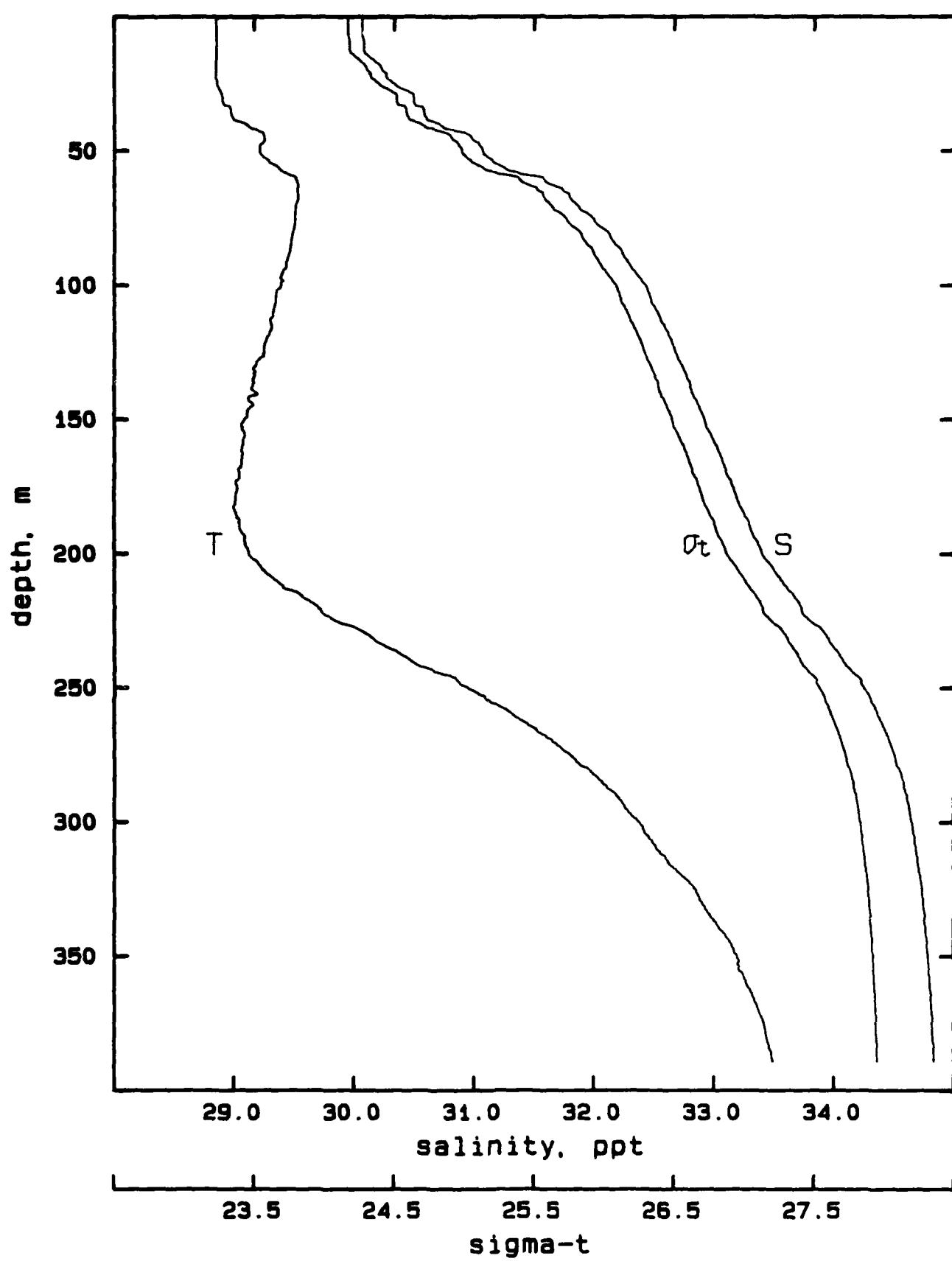
-1.5 -1.0 -0.5 -0.0 0.5

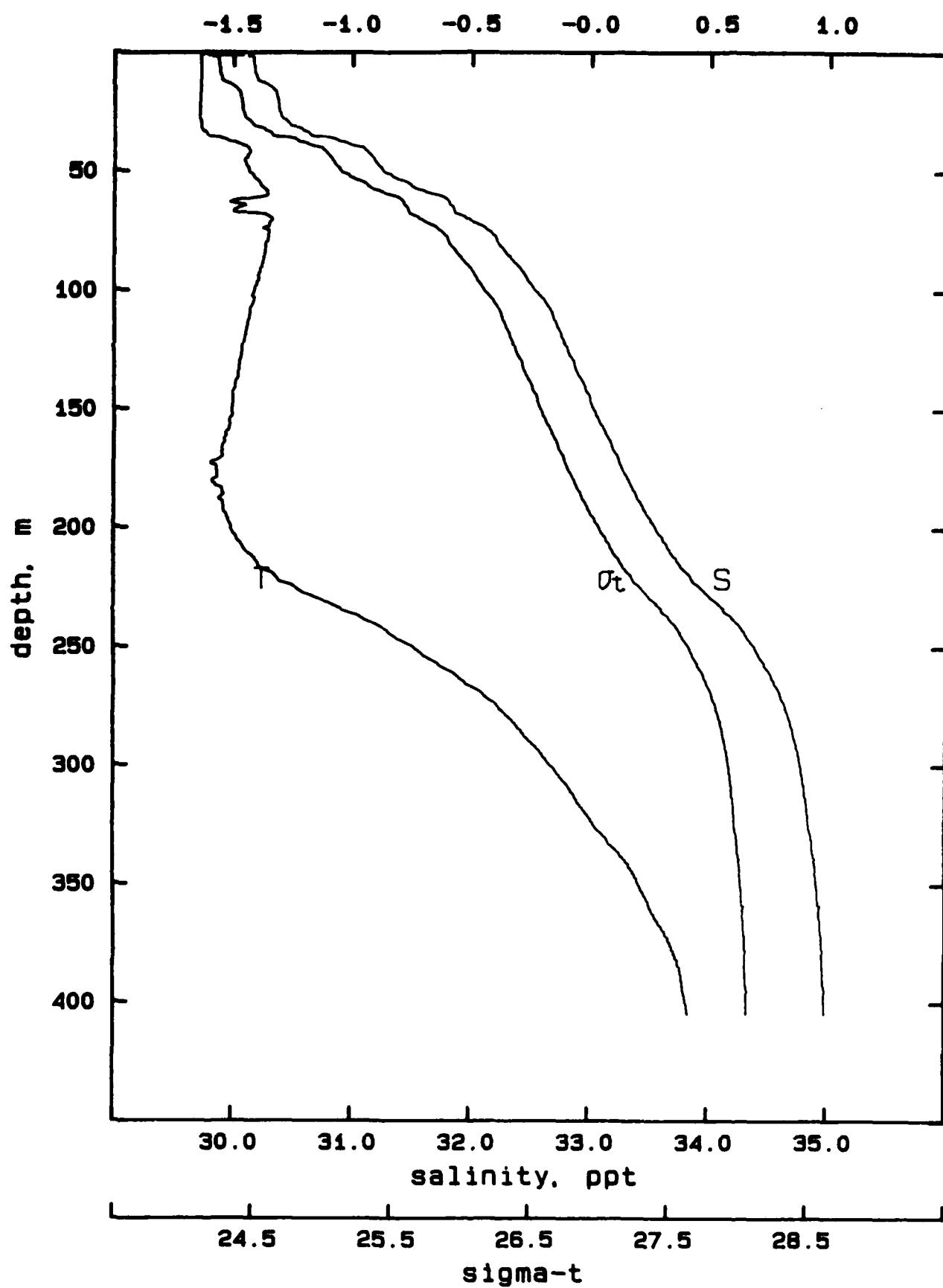


48  
A418B.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5



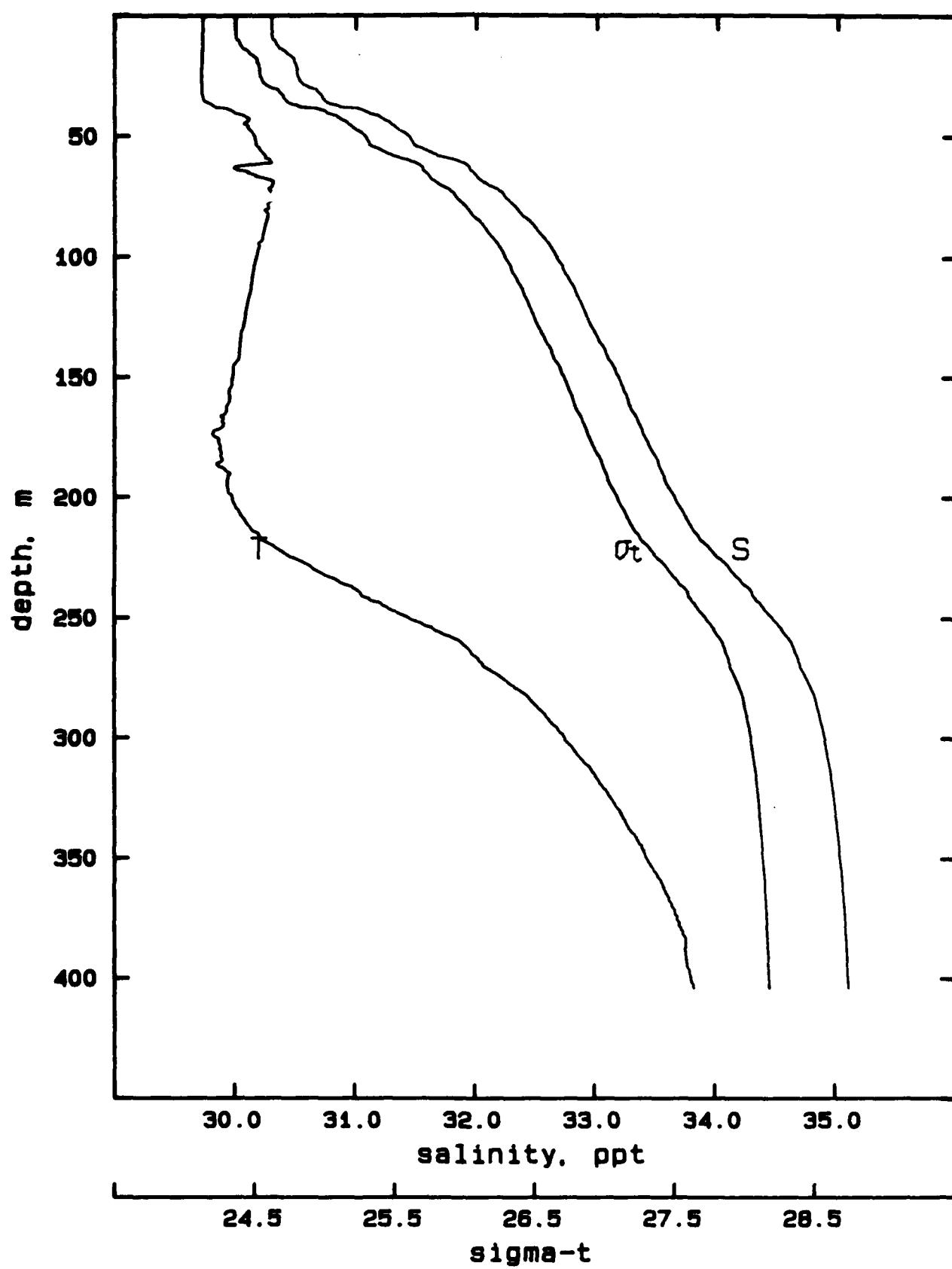
A419A.001  
temperature

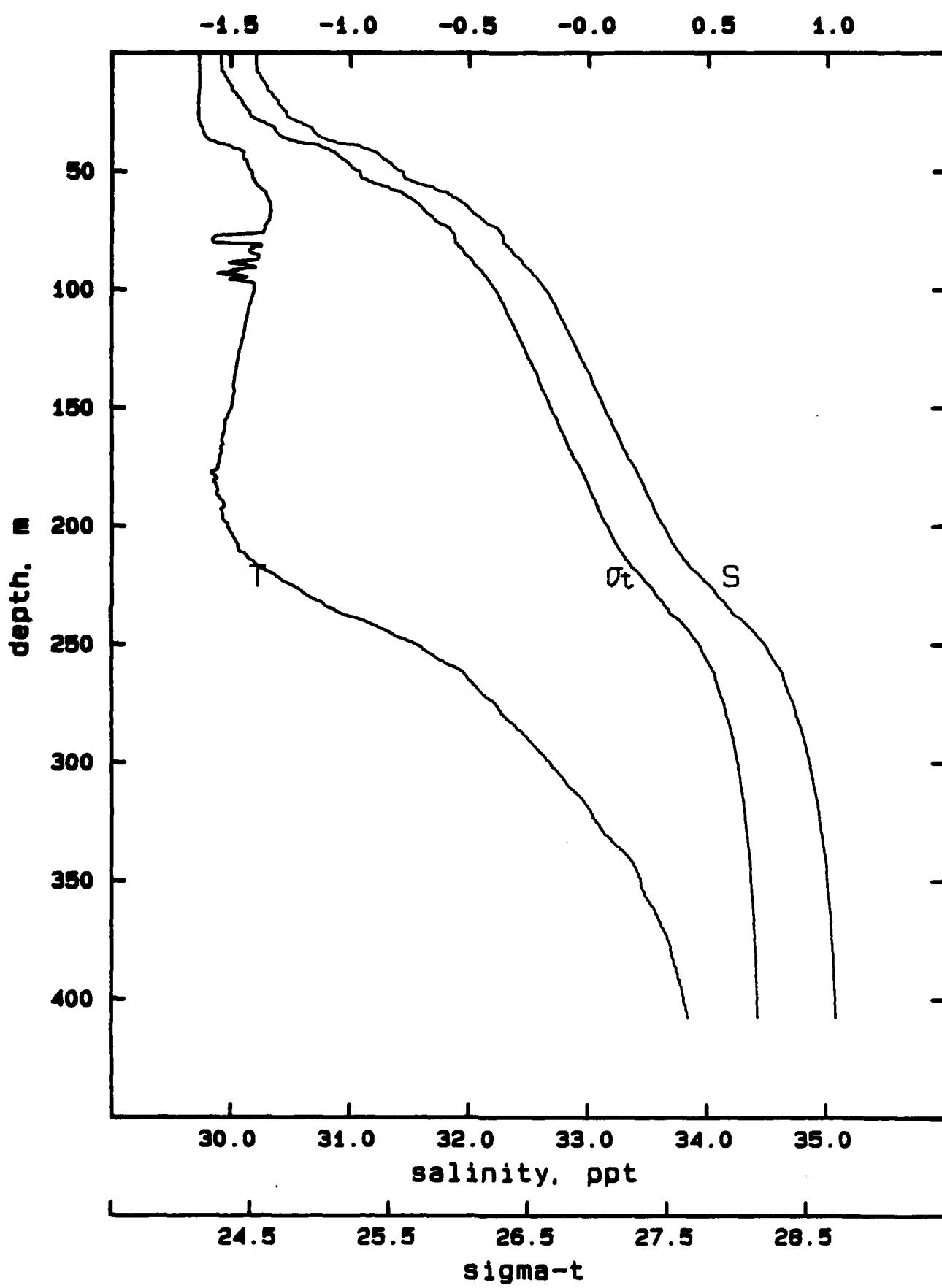
50

A419B.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5 1.0

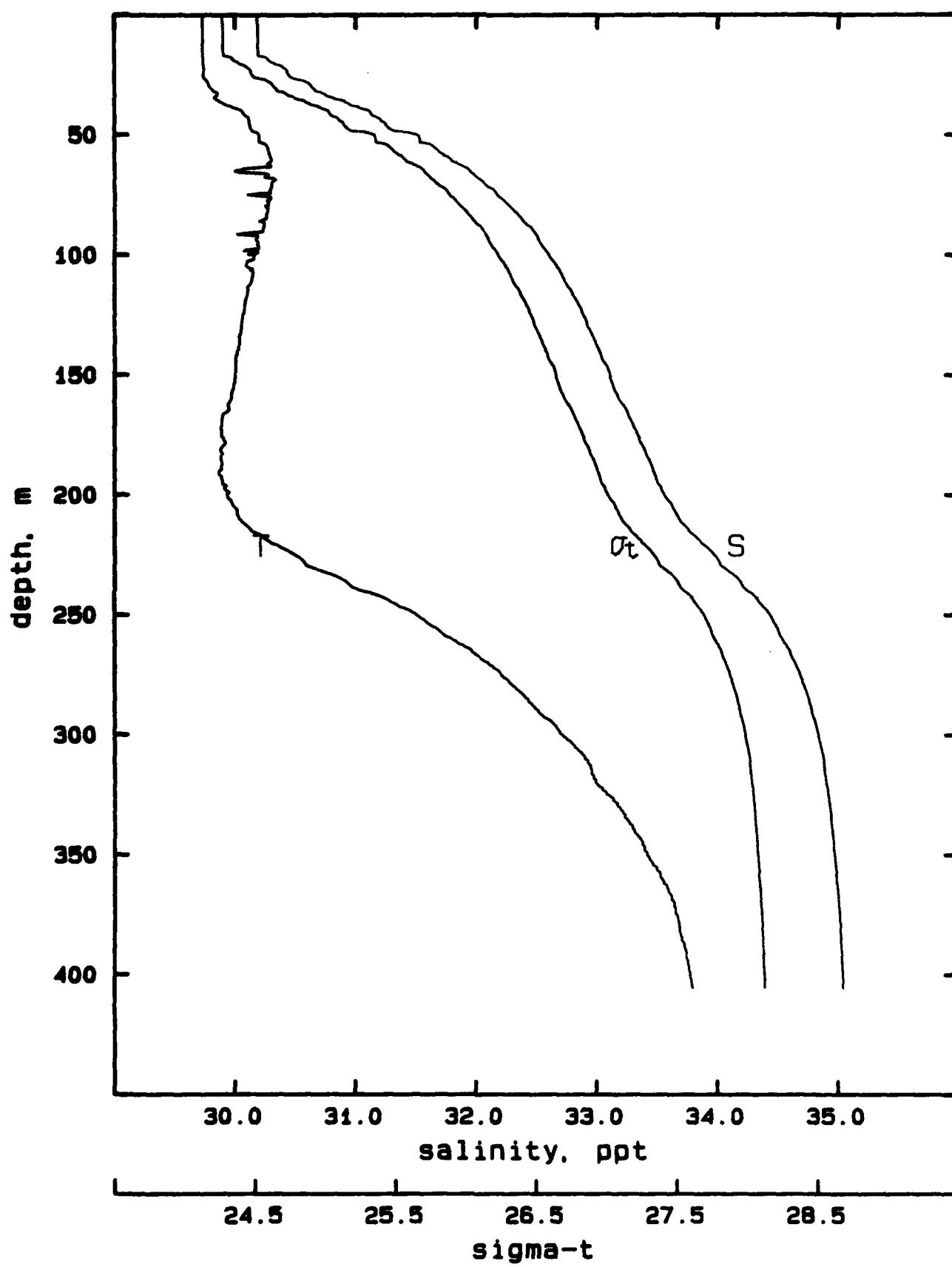


A419C.001  
temperature

52  
A419D.001

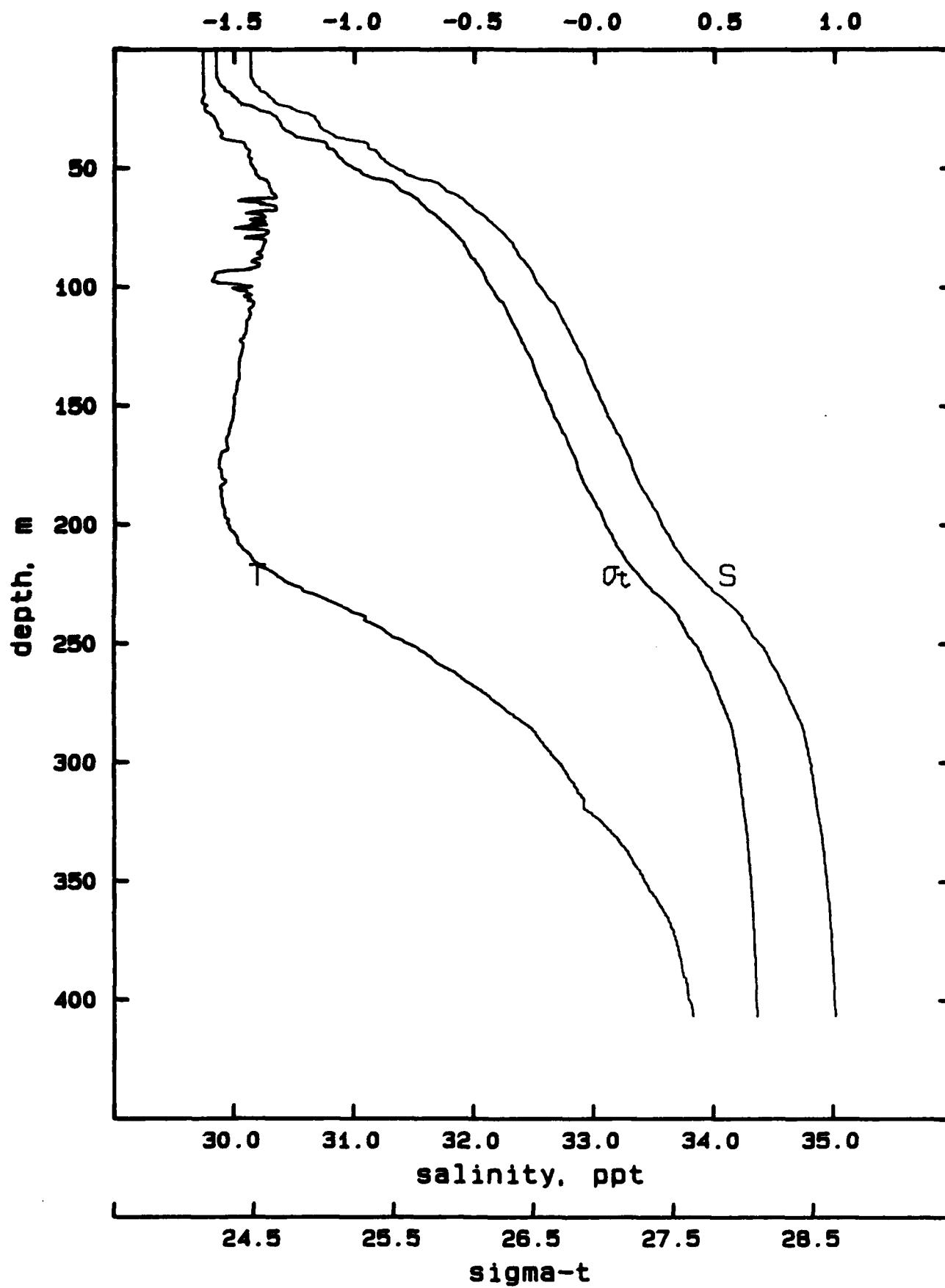
temperature

-1.5 -1.0 -0.5 -0.0 0.5 1.0



A419E.001

## temperature

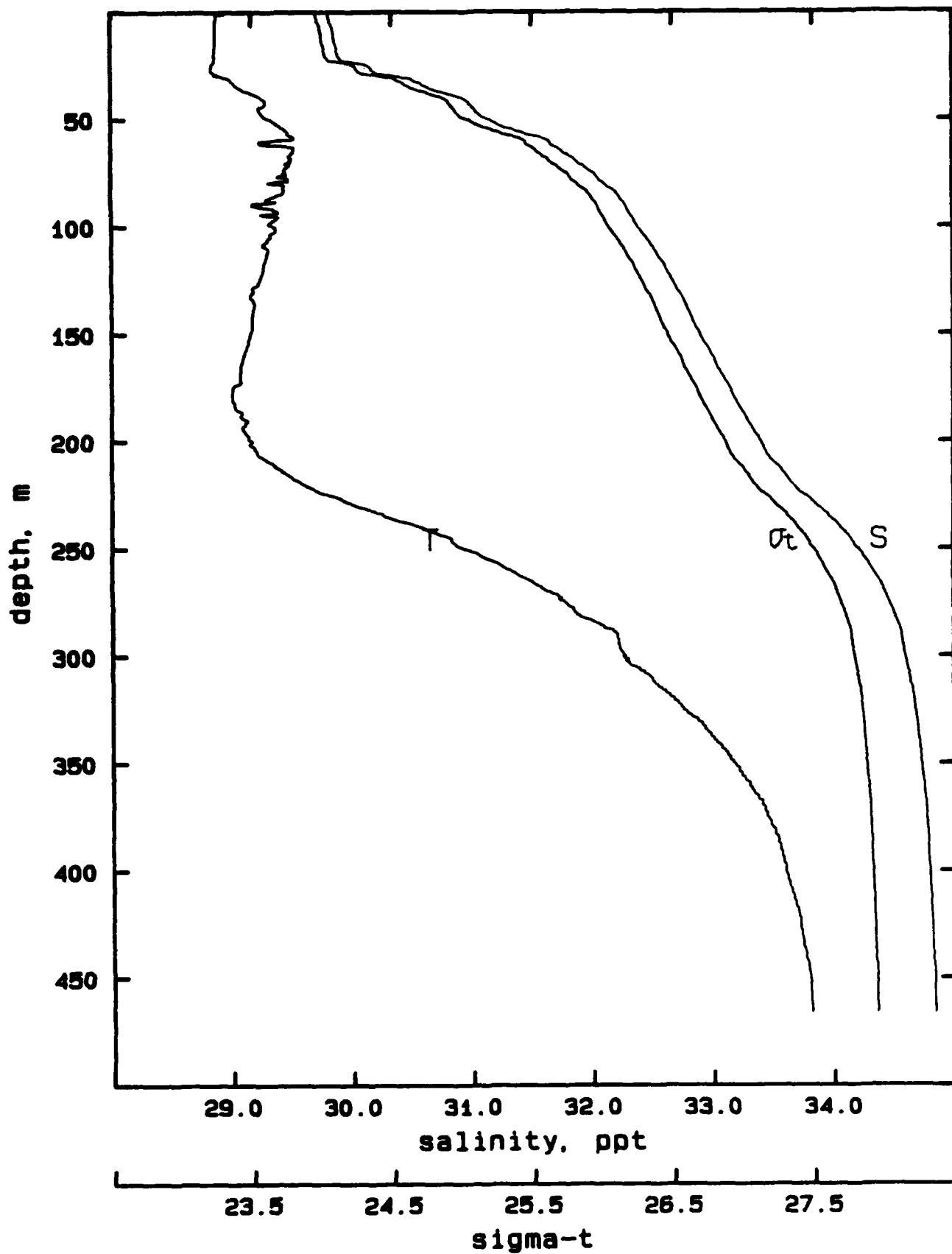


54

A421A.003

temperature

-1.5 -1.0 -0.5 -0.0 0.5



55

A421B.002

## temperature

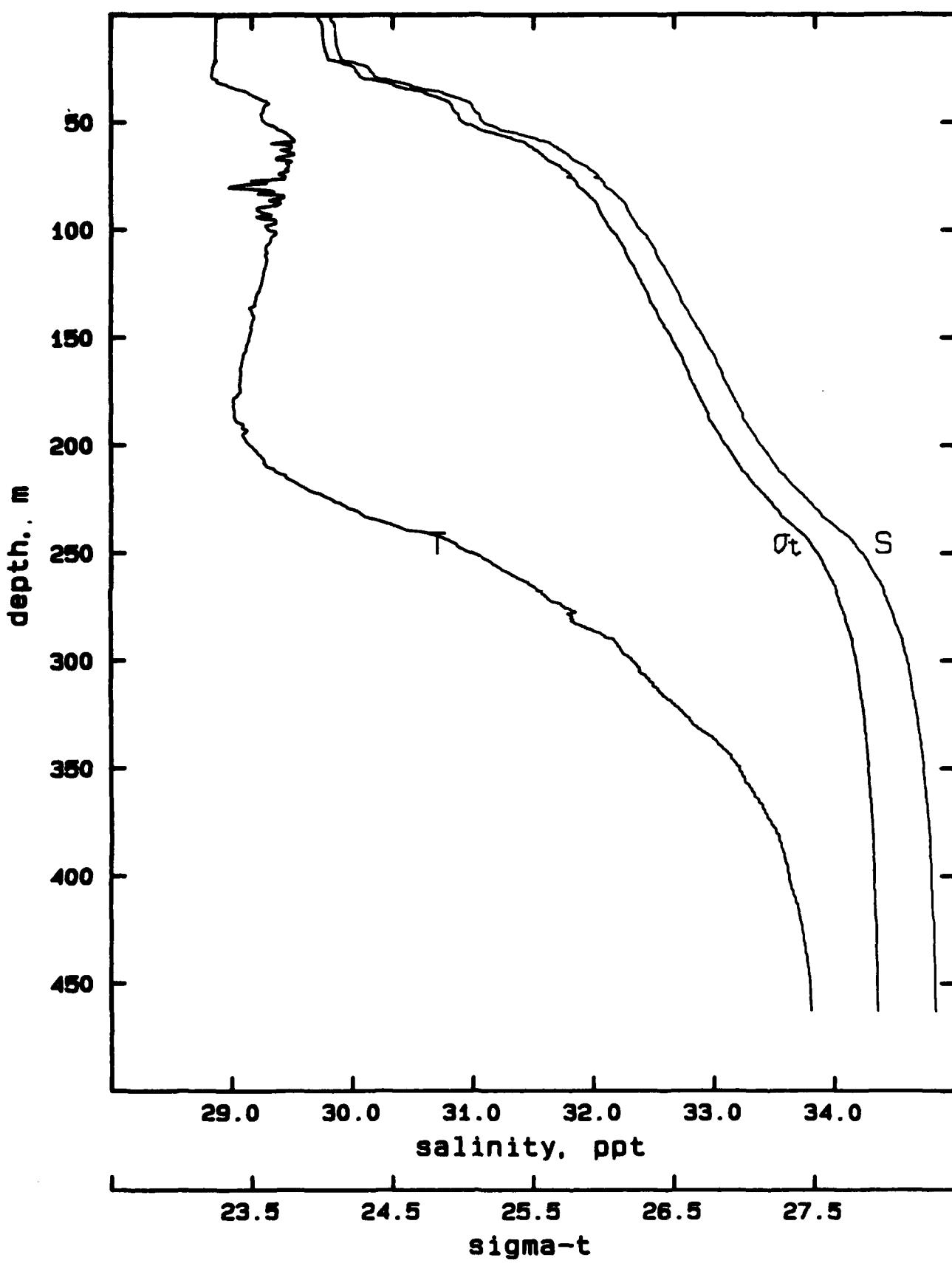
-15

-10

-0-

-0.0

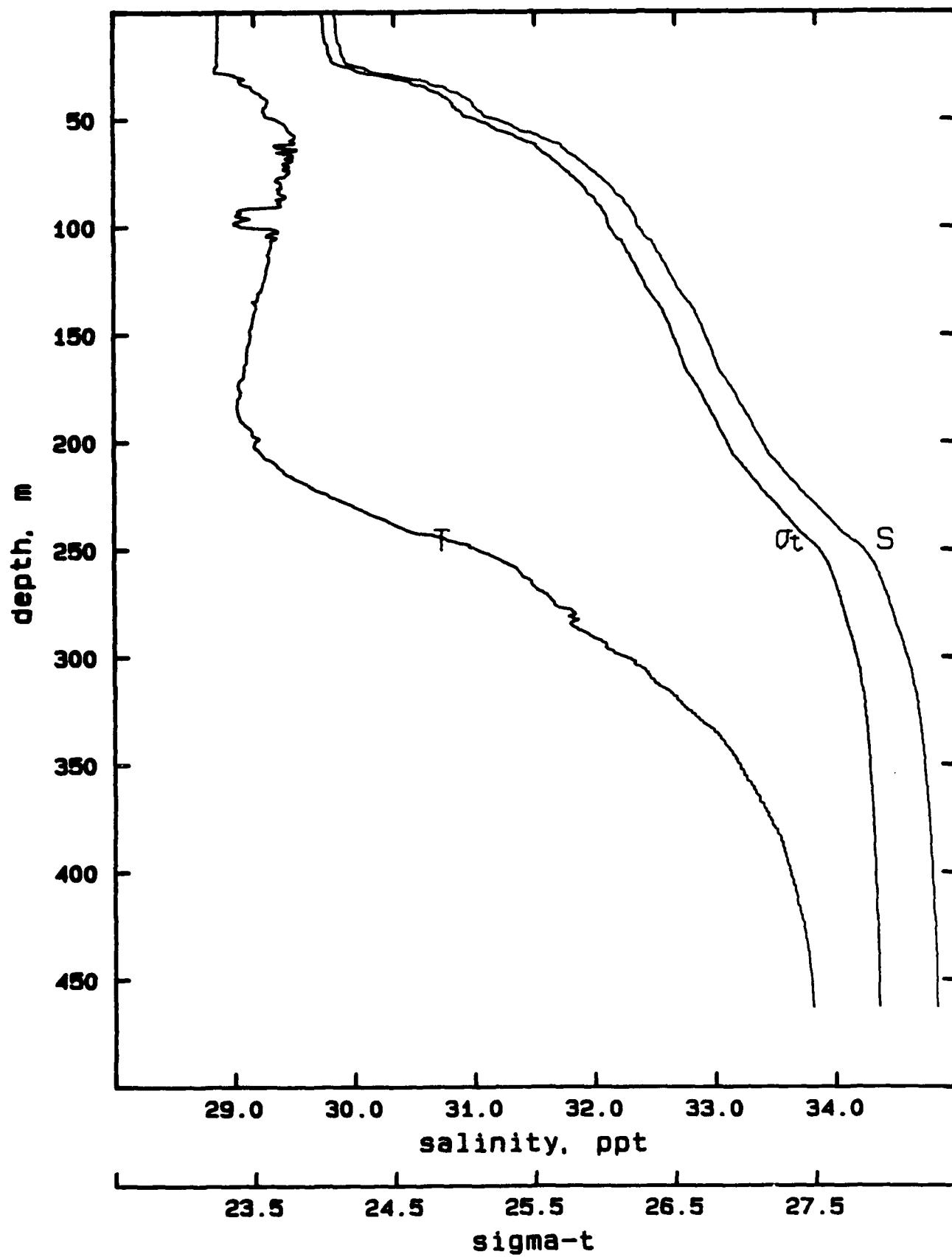
9.5



56

## temperature

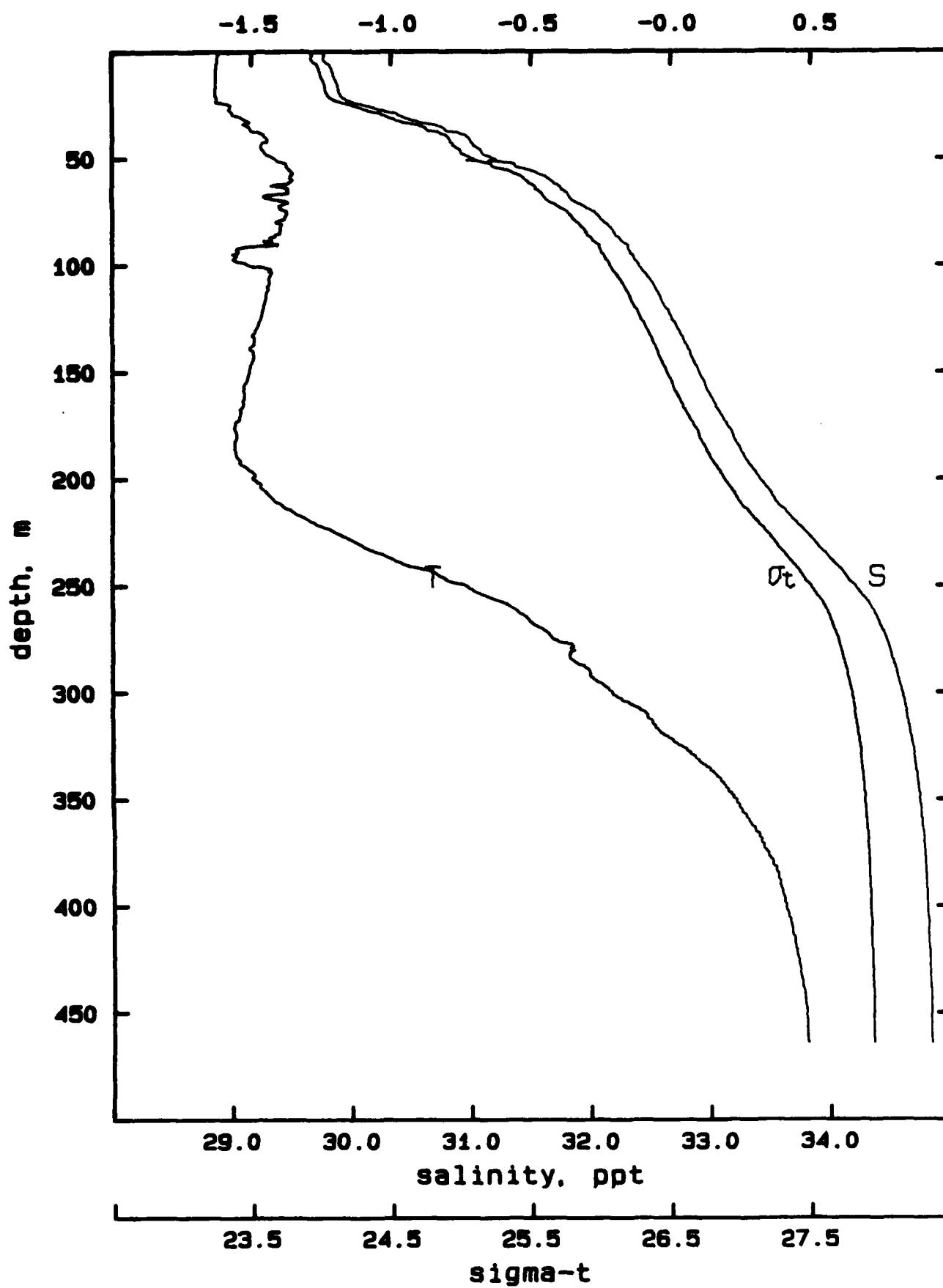
**-1.5 -1.0 -0.5 -0.0 0.5**



57

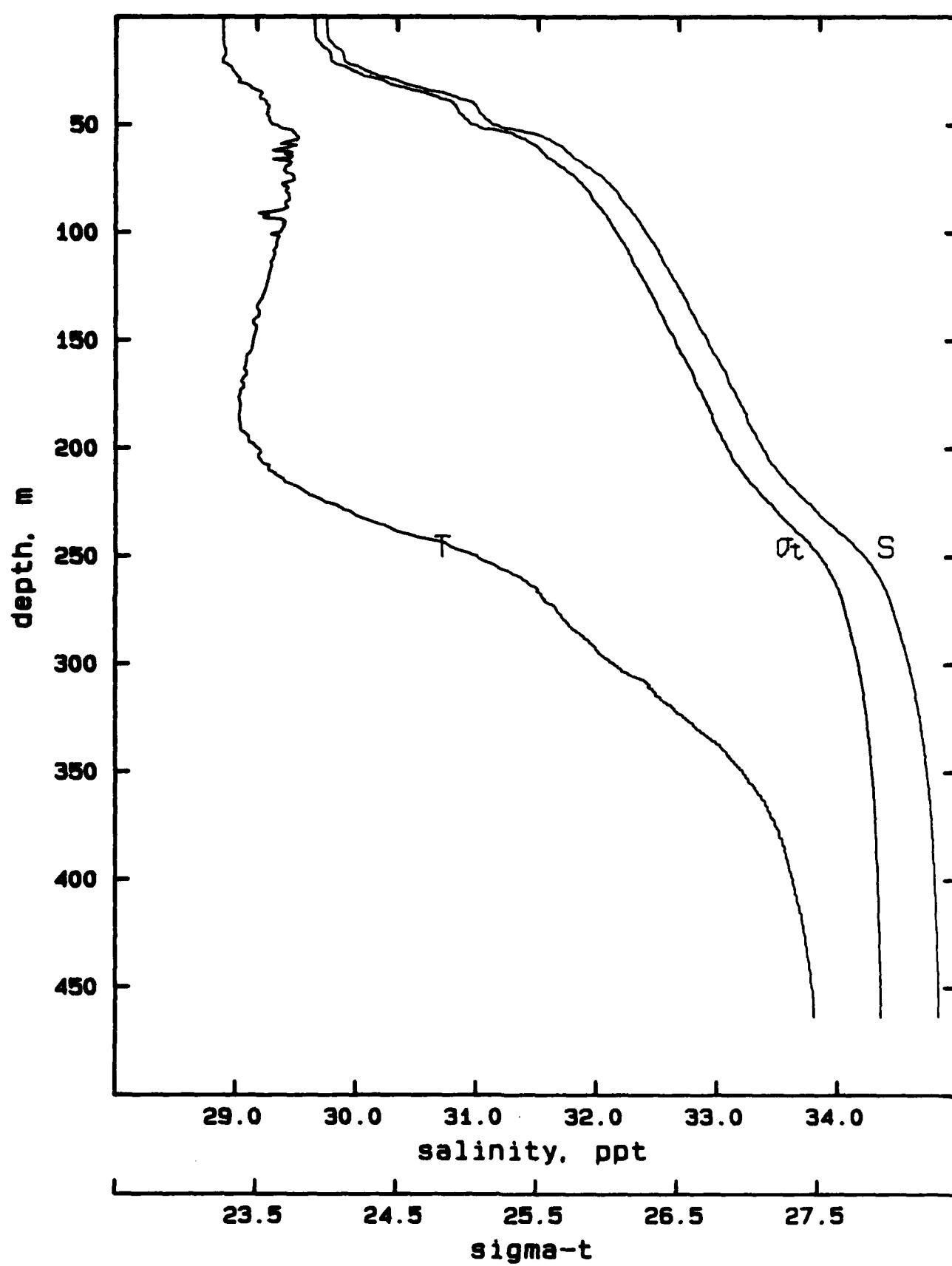
A421D.001

## temperature

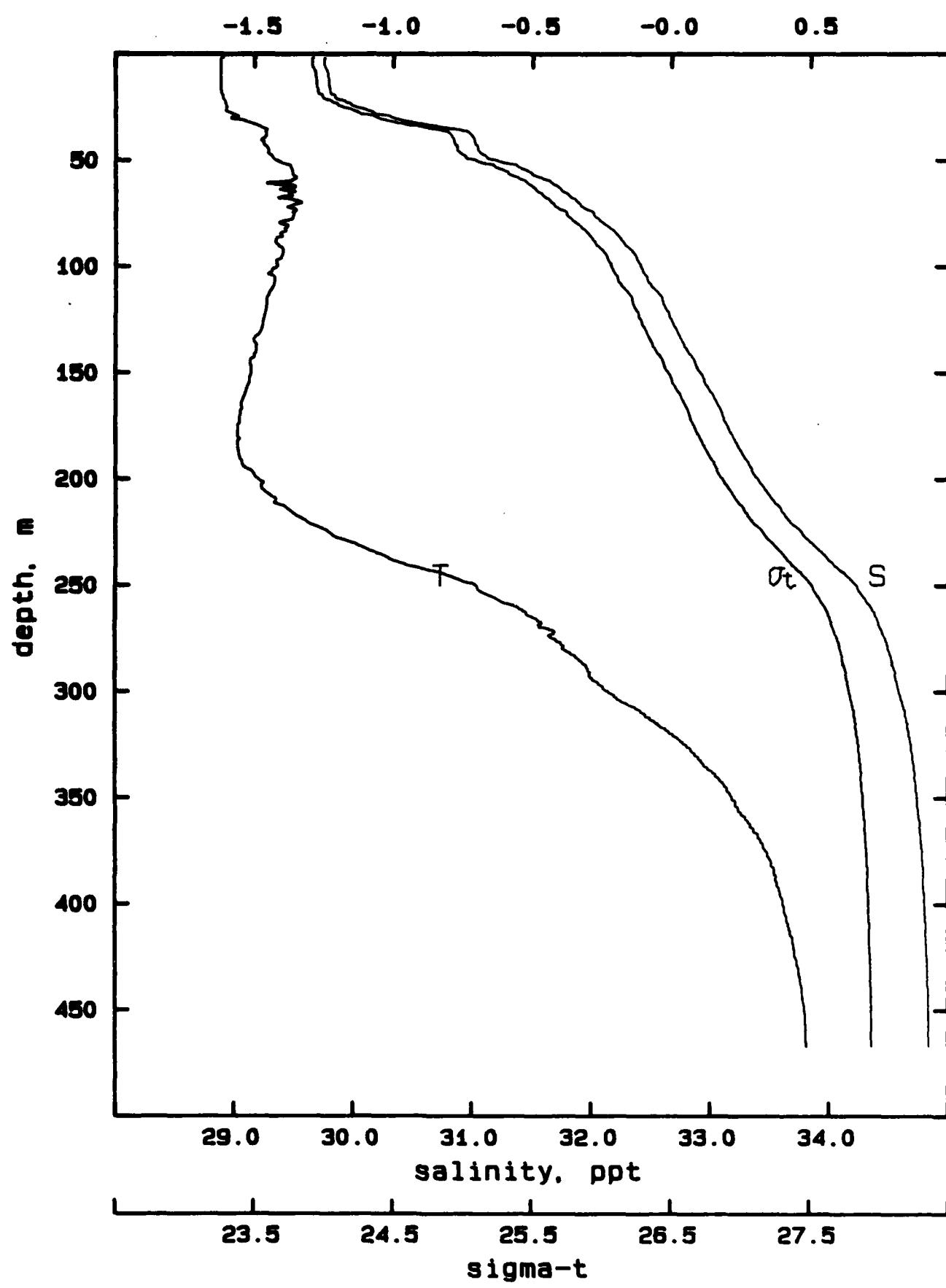


## temperature

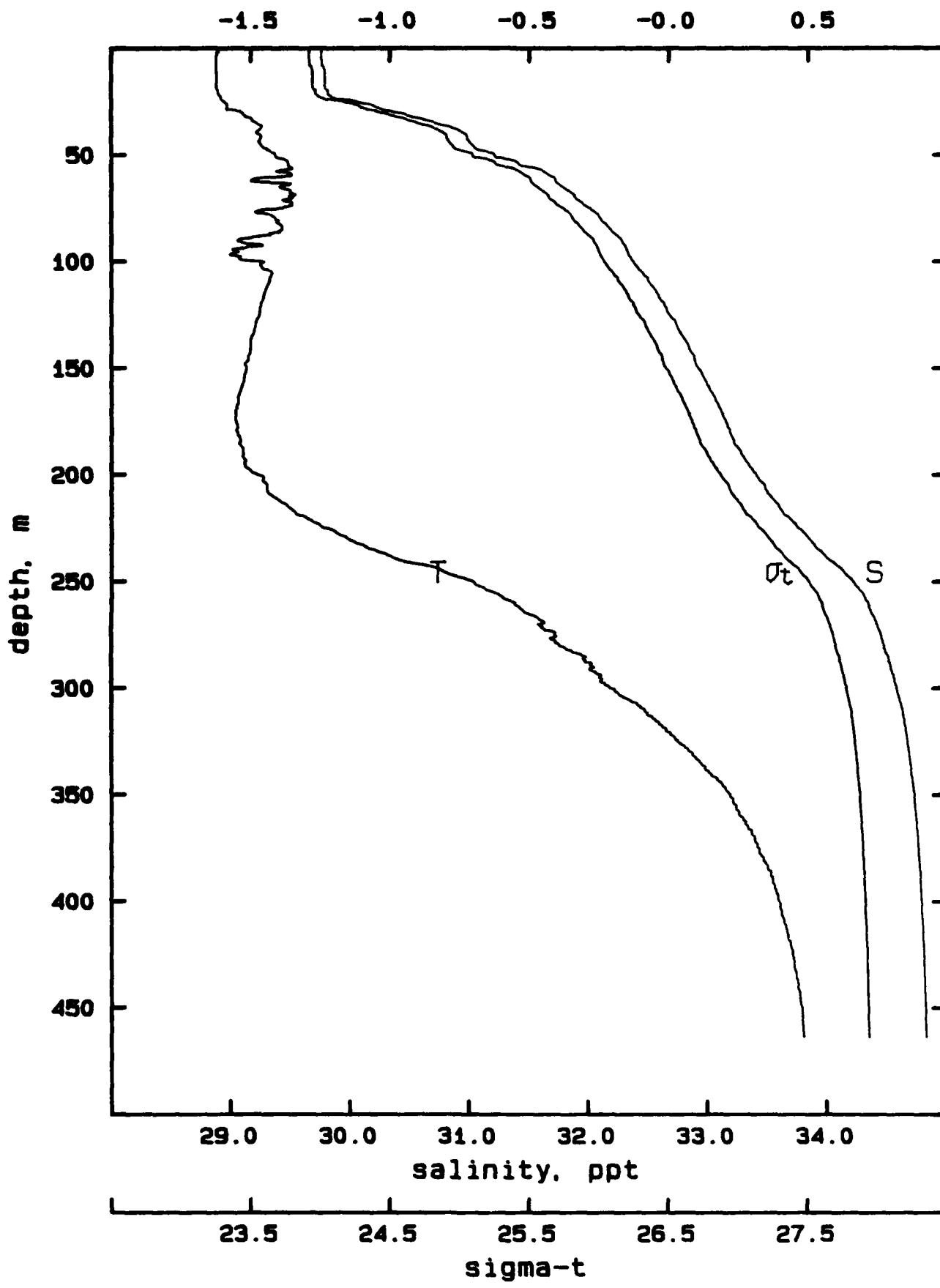
-1.5 -1.0 -0.5 -0.0 0.5



59  
A422B.001  
temperature

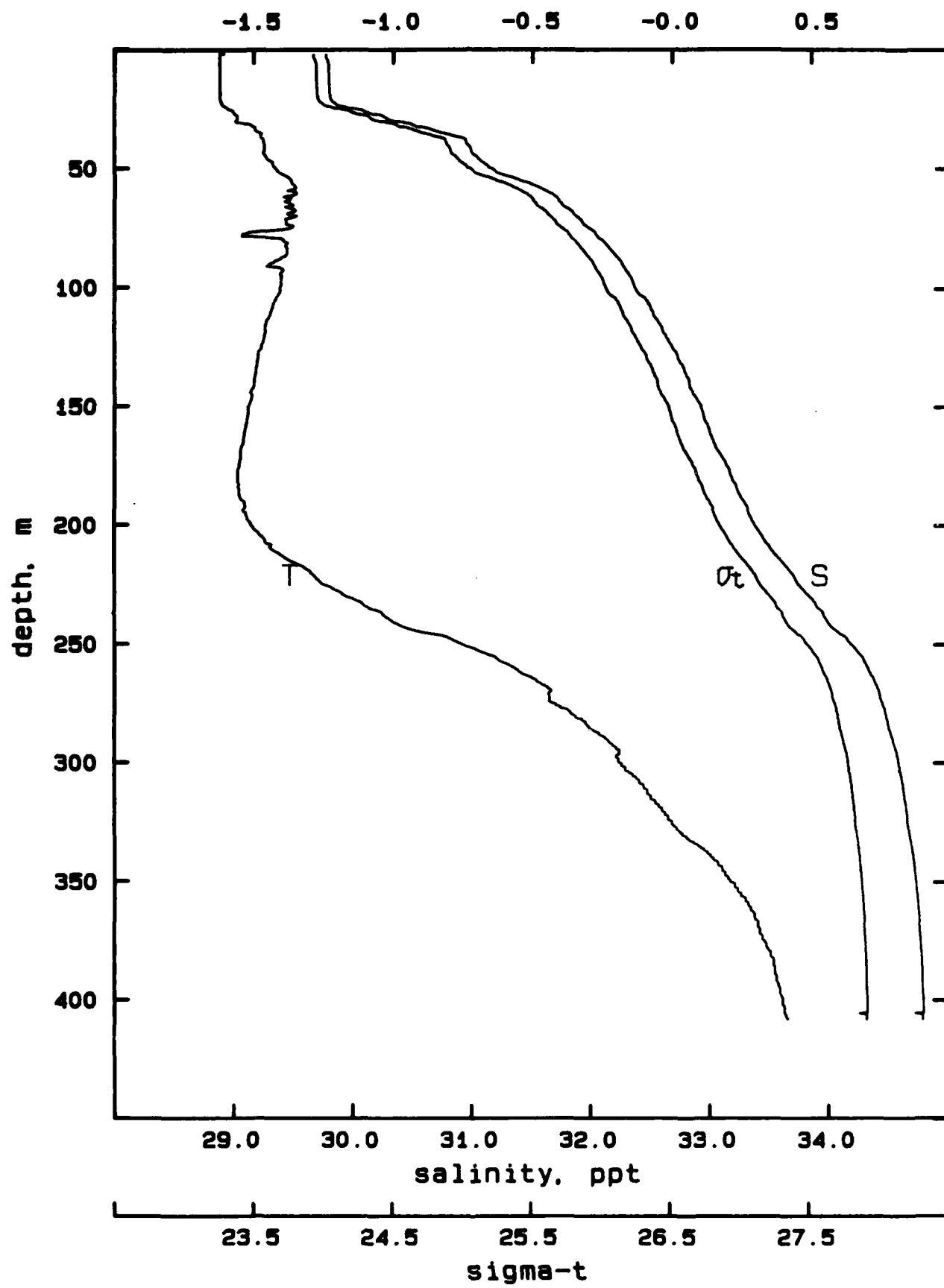


60  
A422C.001  
temperature



A422D.001

temperature

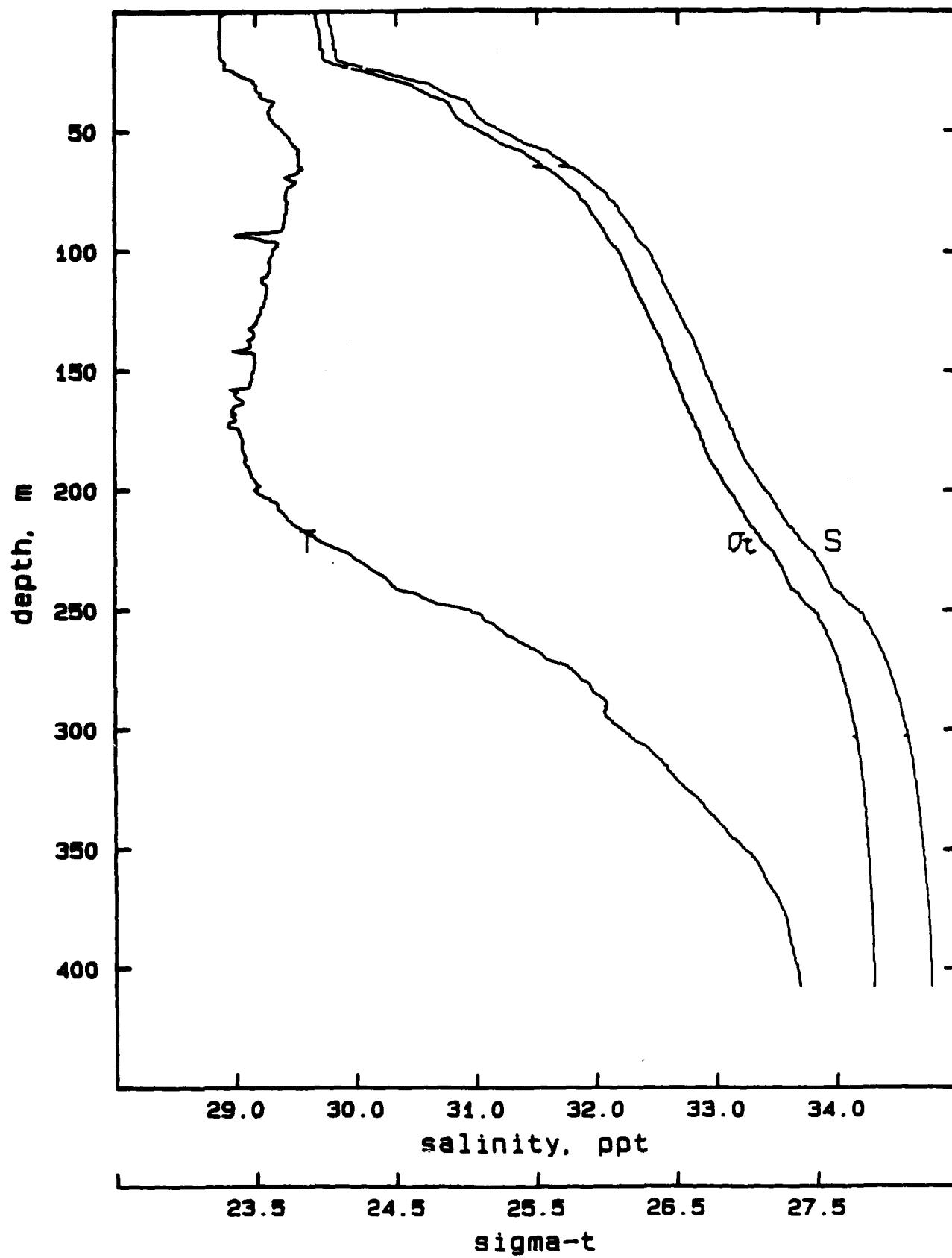


62

A422J.004

temperature

-1.5 -1.0 -0.5 -0.0 0.5

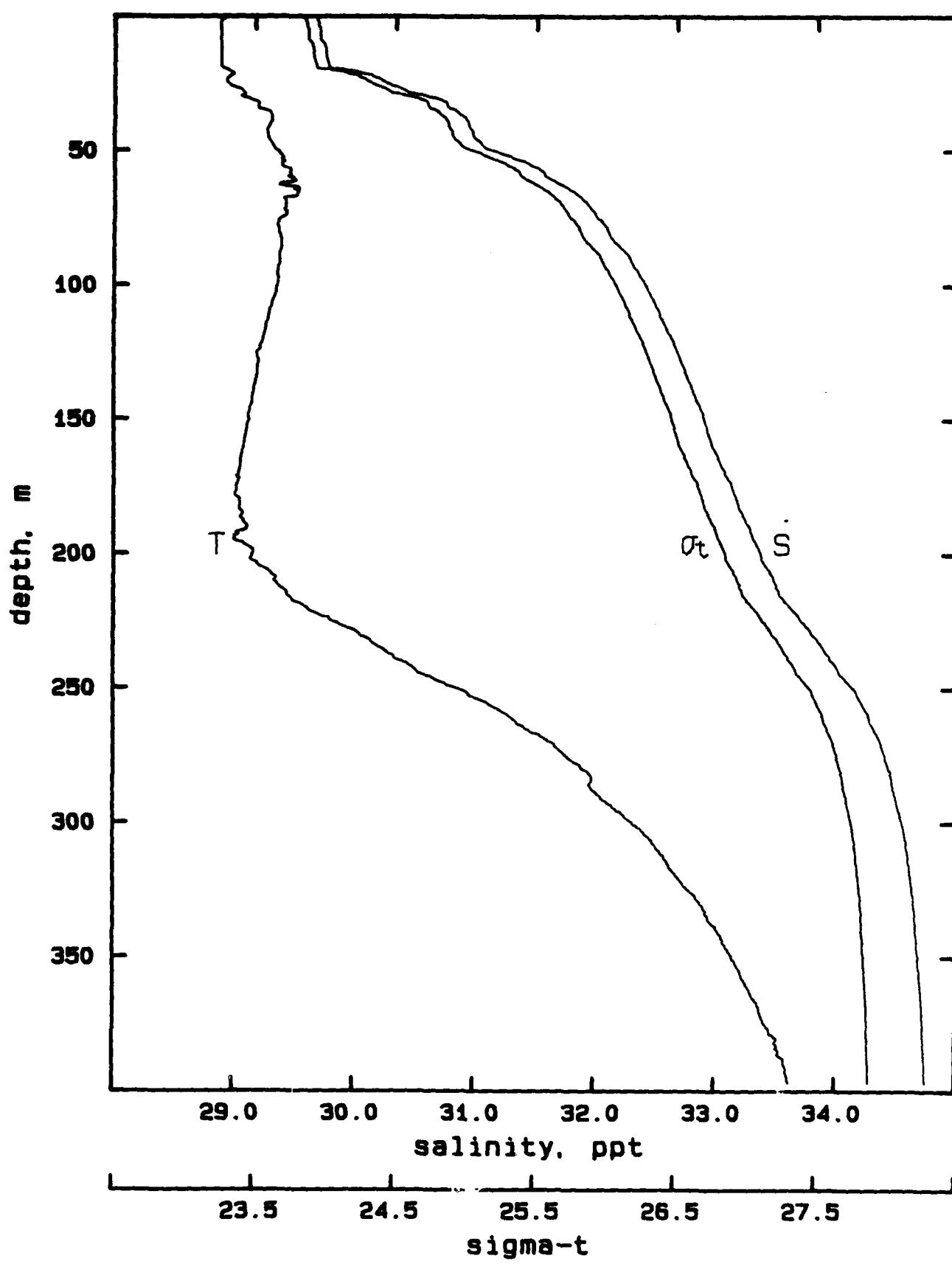


63

A423A.002

temperature

-1.5 -1.0 -0.5 -0.0 0.5

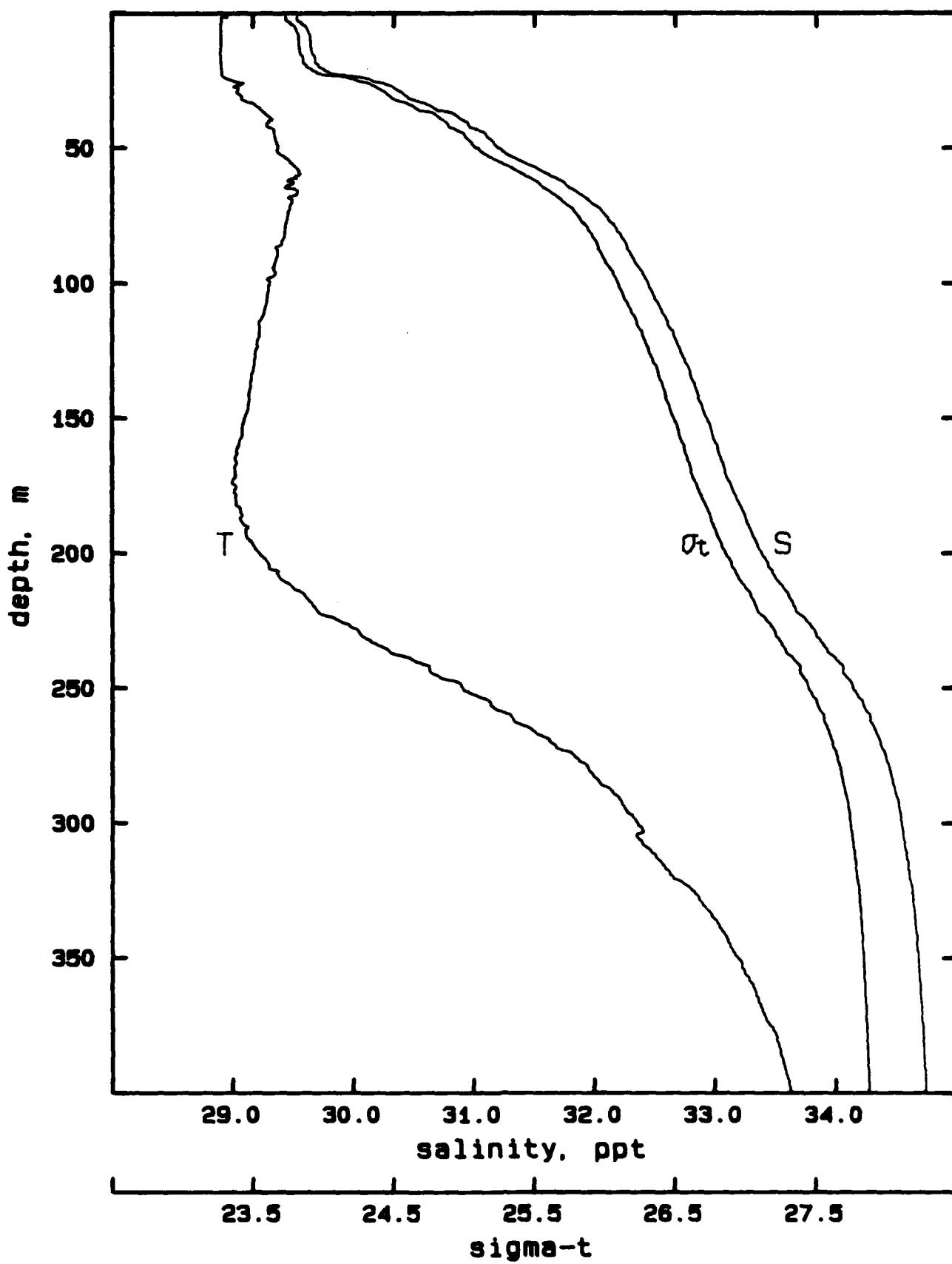


64

A423E.003

temperature

-1.5 -1.0 -0.5 -0.0 0.5

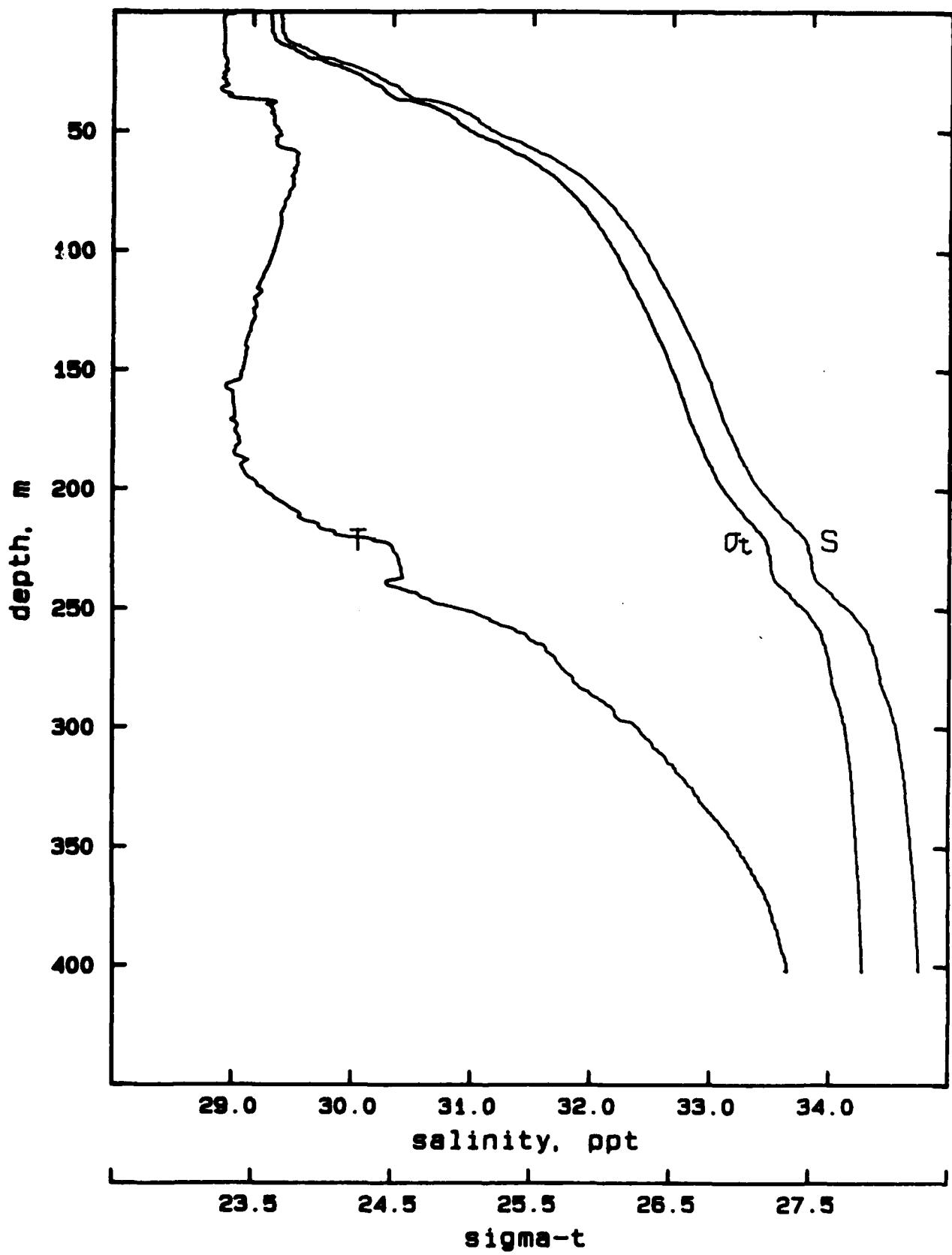


65

A424A.001

temperature

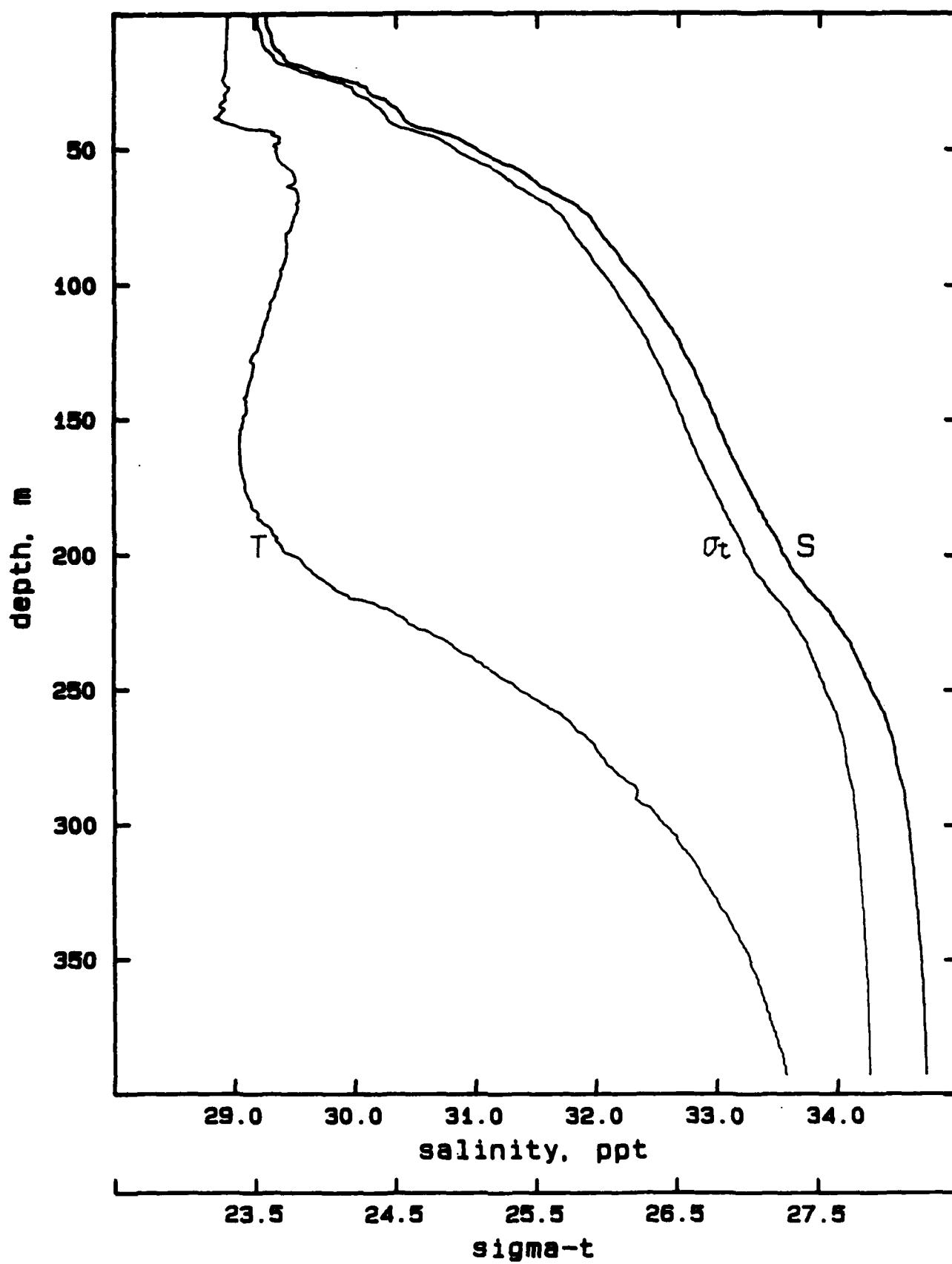
-1.5 -1.0 -0.5 -0.0 0.5



A424G.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5

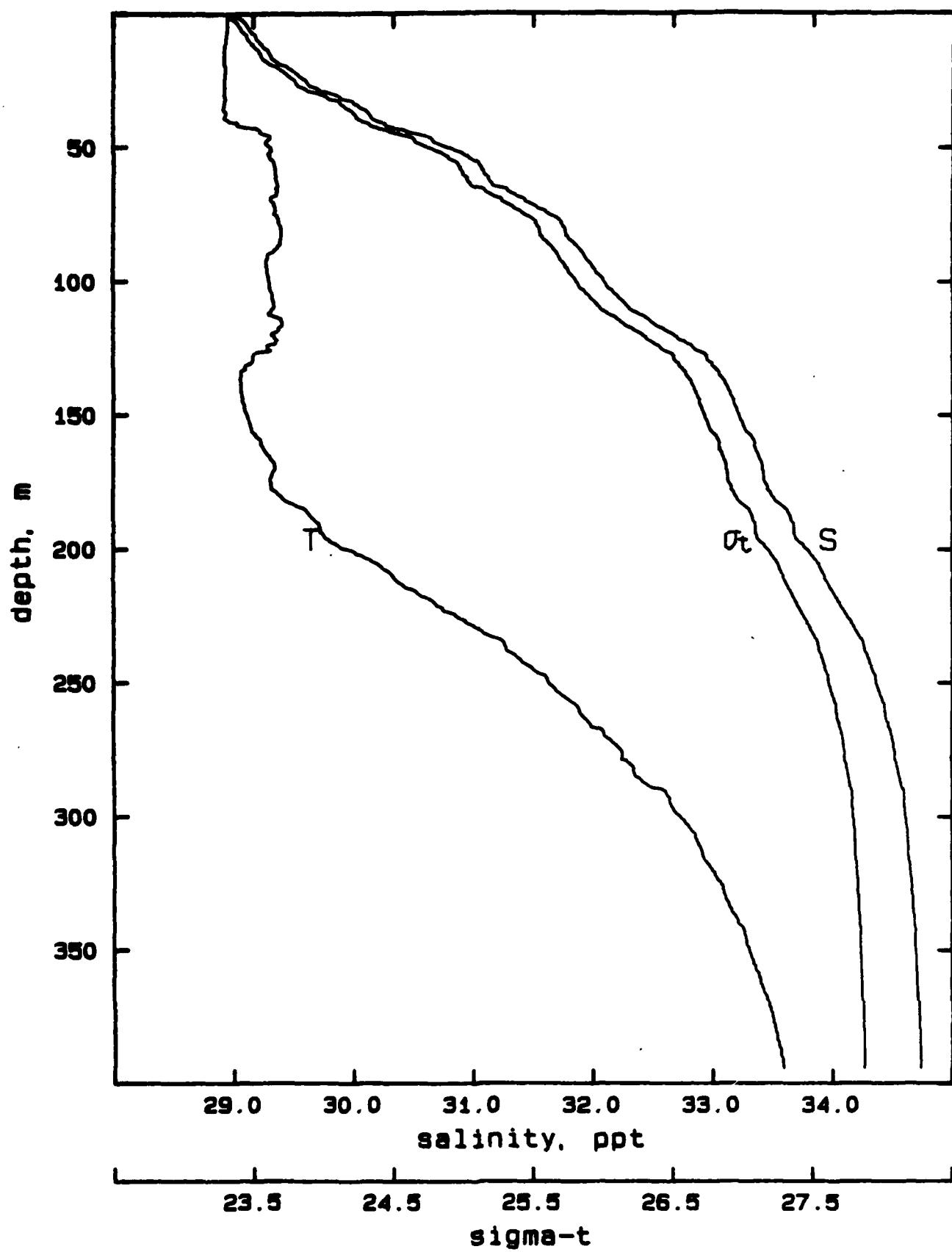


67

A425A.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5



68

A4258.001

temperature

-1.5

-1.0

-0.5

-0.0

0.5

depth, m

50

100

150

200

250

300

350

29.0

30.0

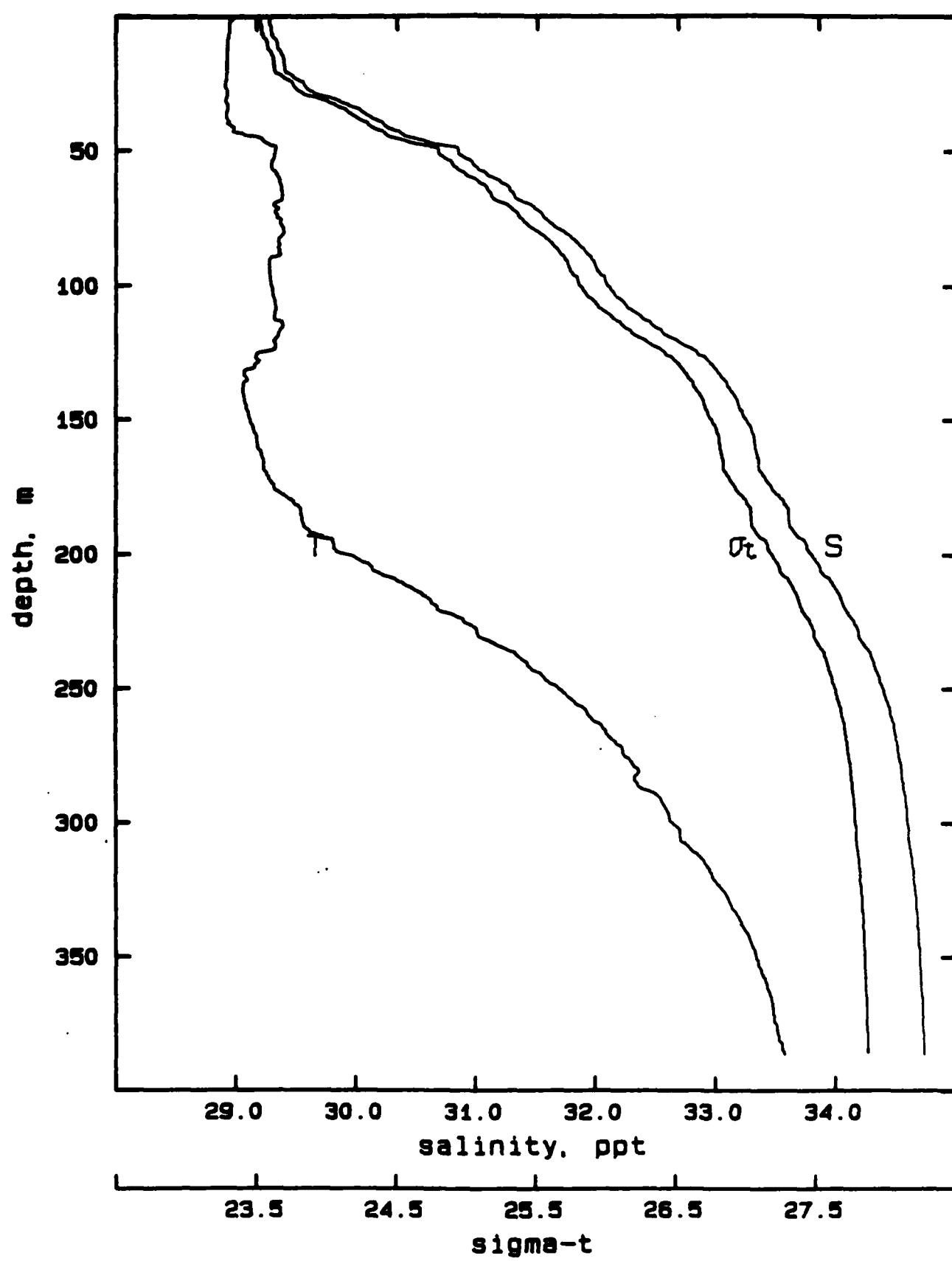
31.0

32.0

33.0

34.0

salinity, ppt

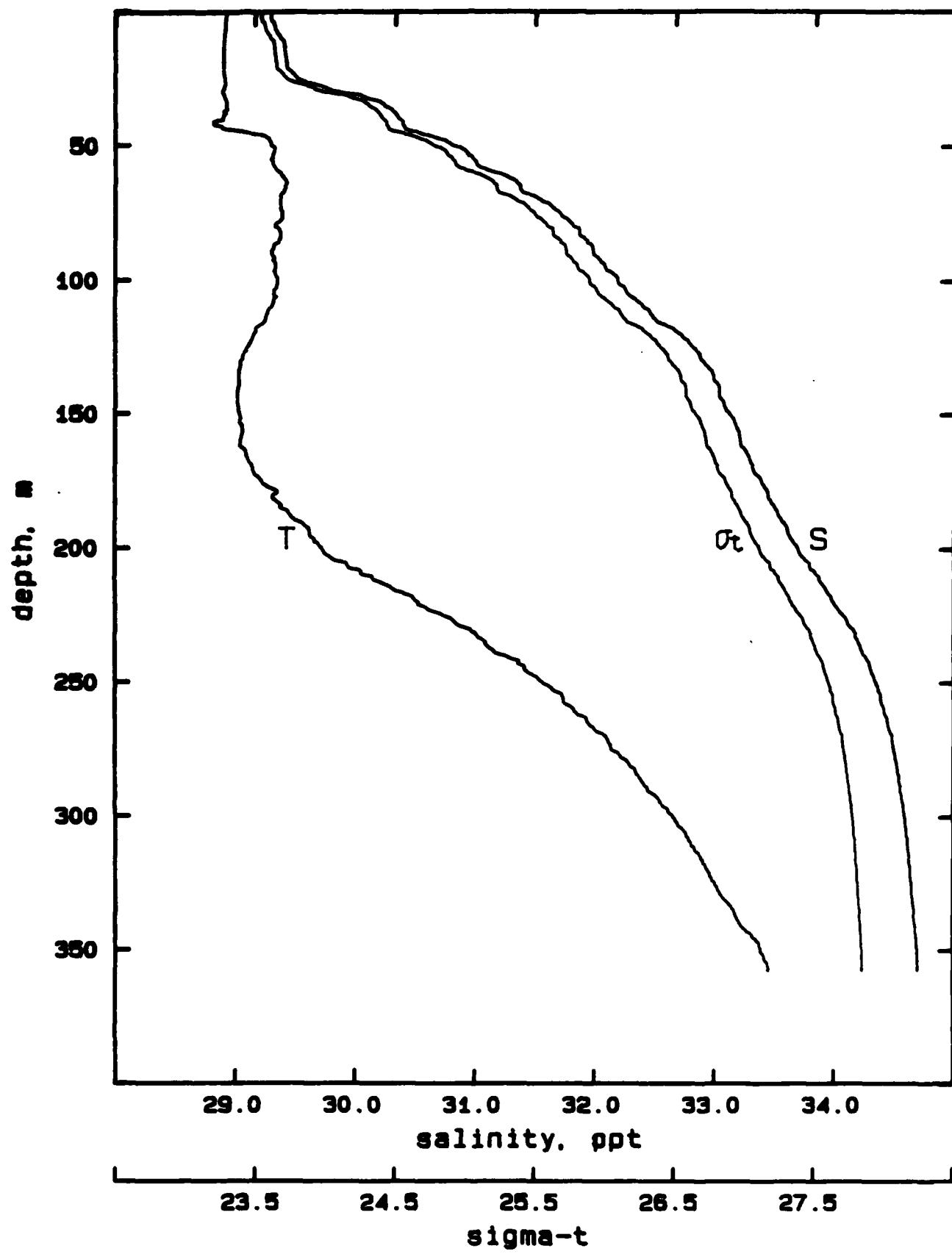


69

A425C.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5

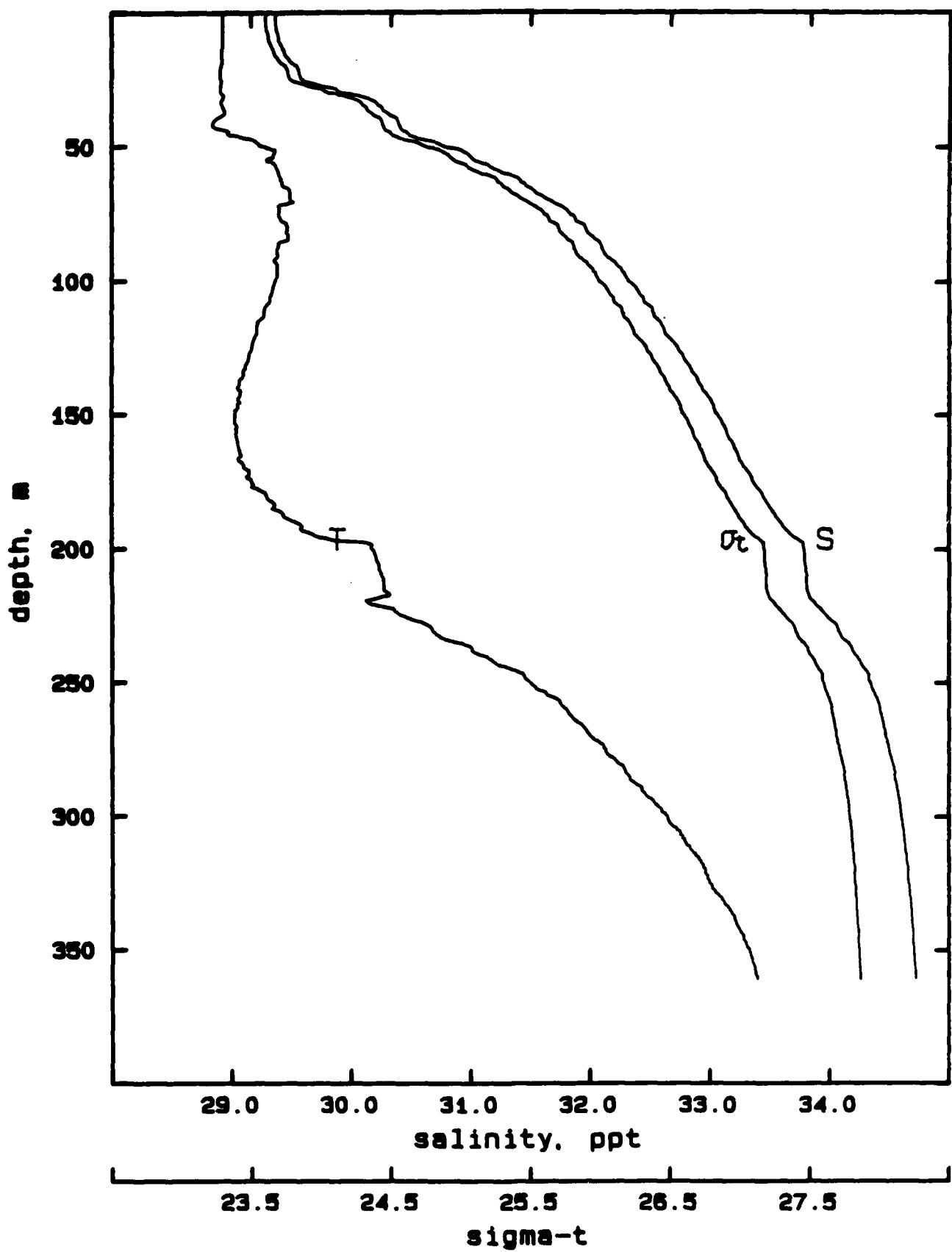


70

A425D.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5

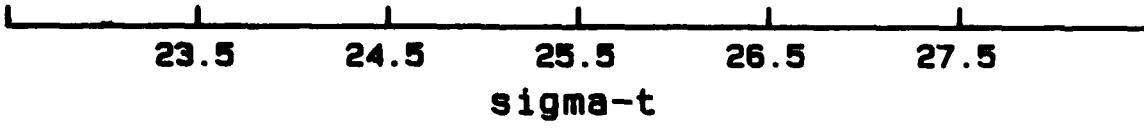
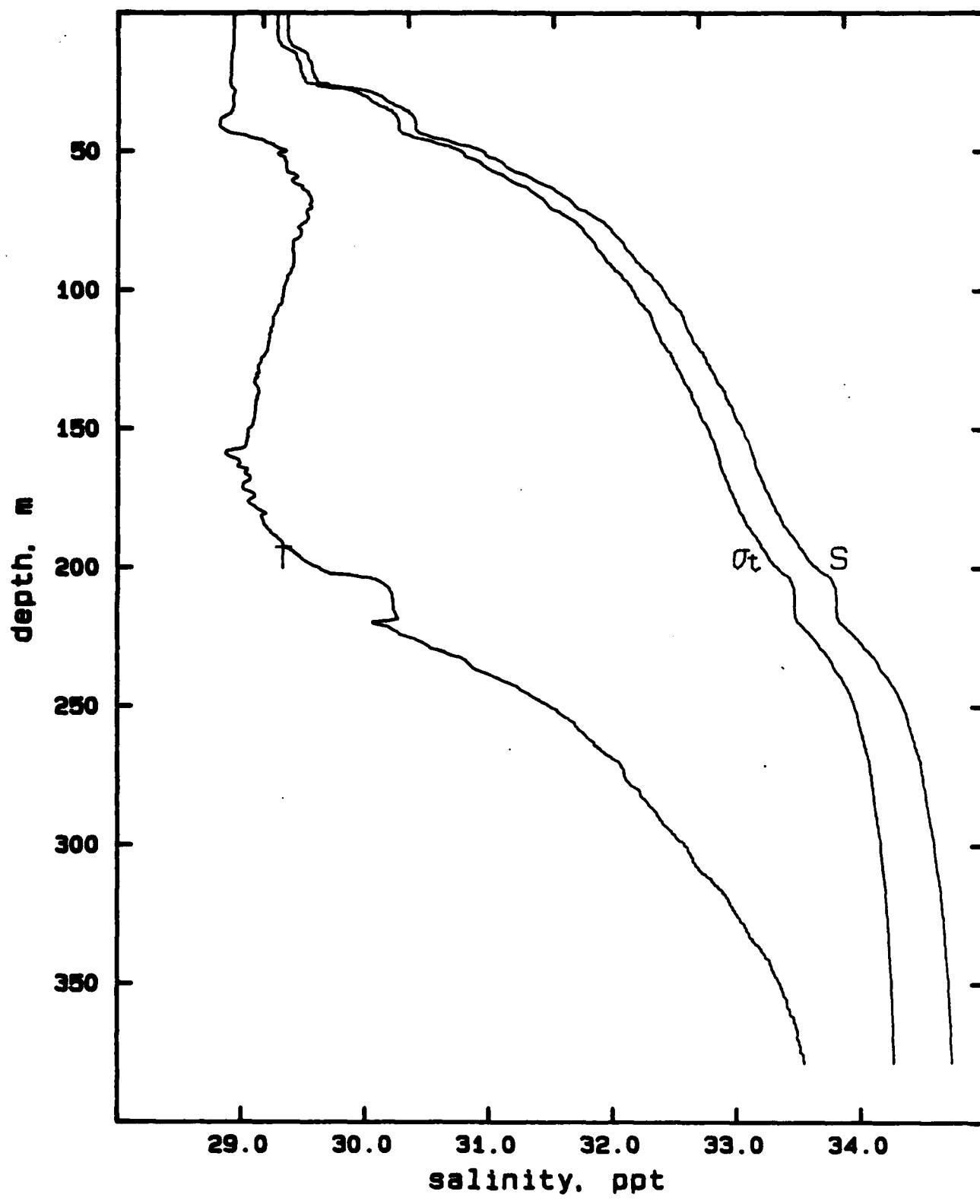


71

A425E.001

temperature

-1.5 -1.0 -0.5 -0.0 0.5



72

A425F .001

## temperature

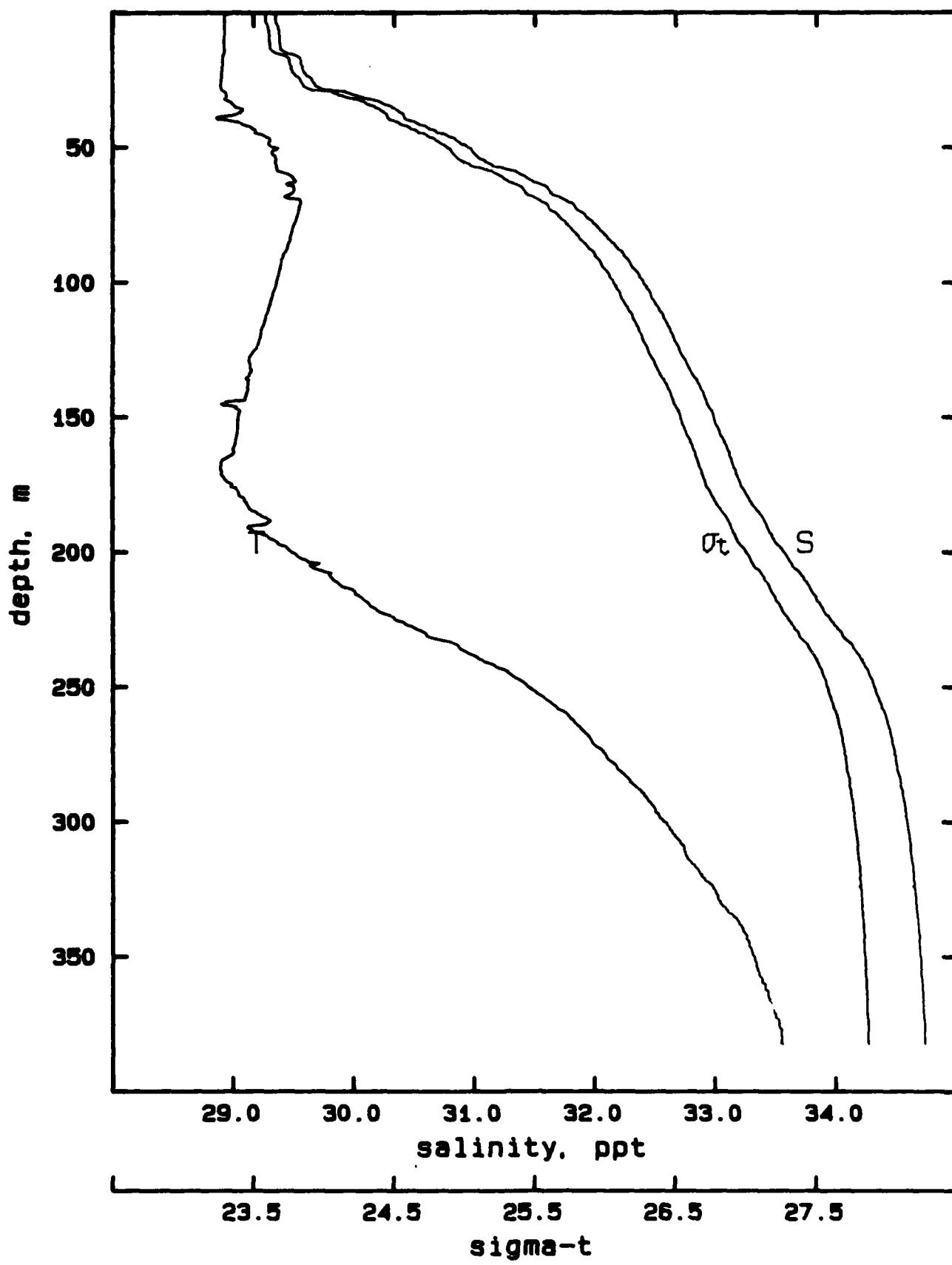
-1.

-1.0

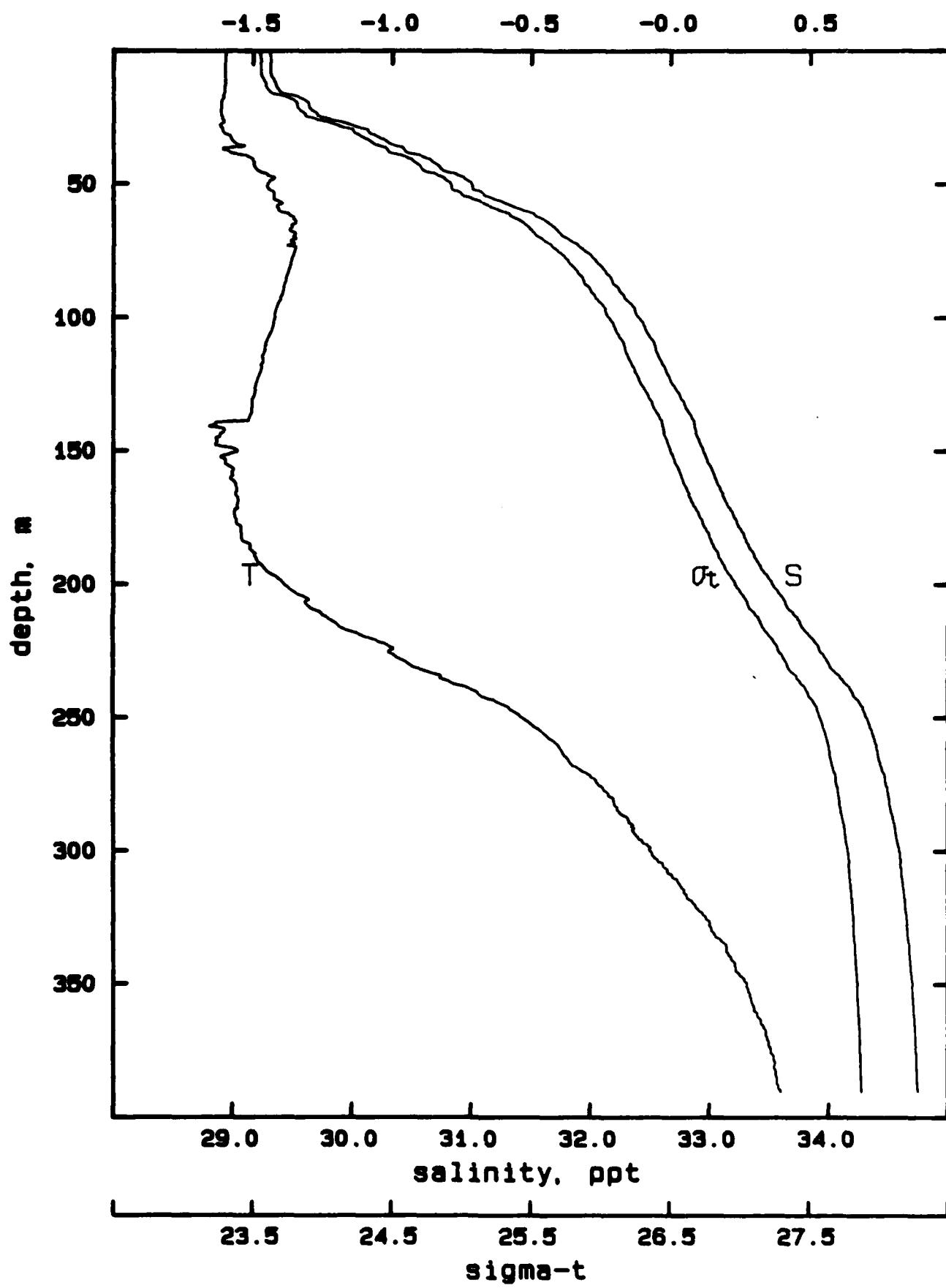
-0.5

-0.0

0.5



73  
A425G.001  
temperature

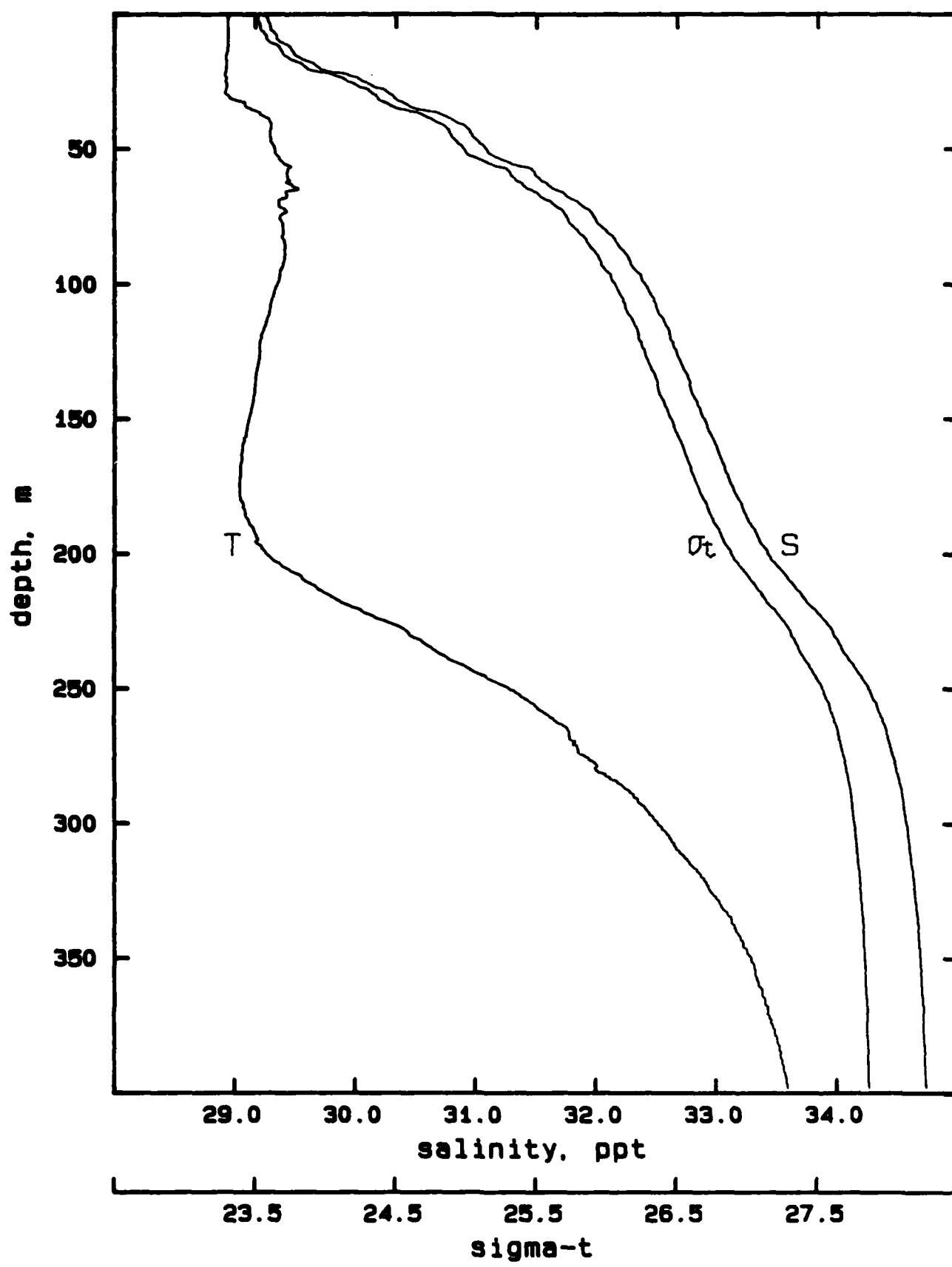


74

A426A.001

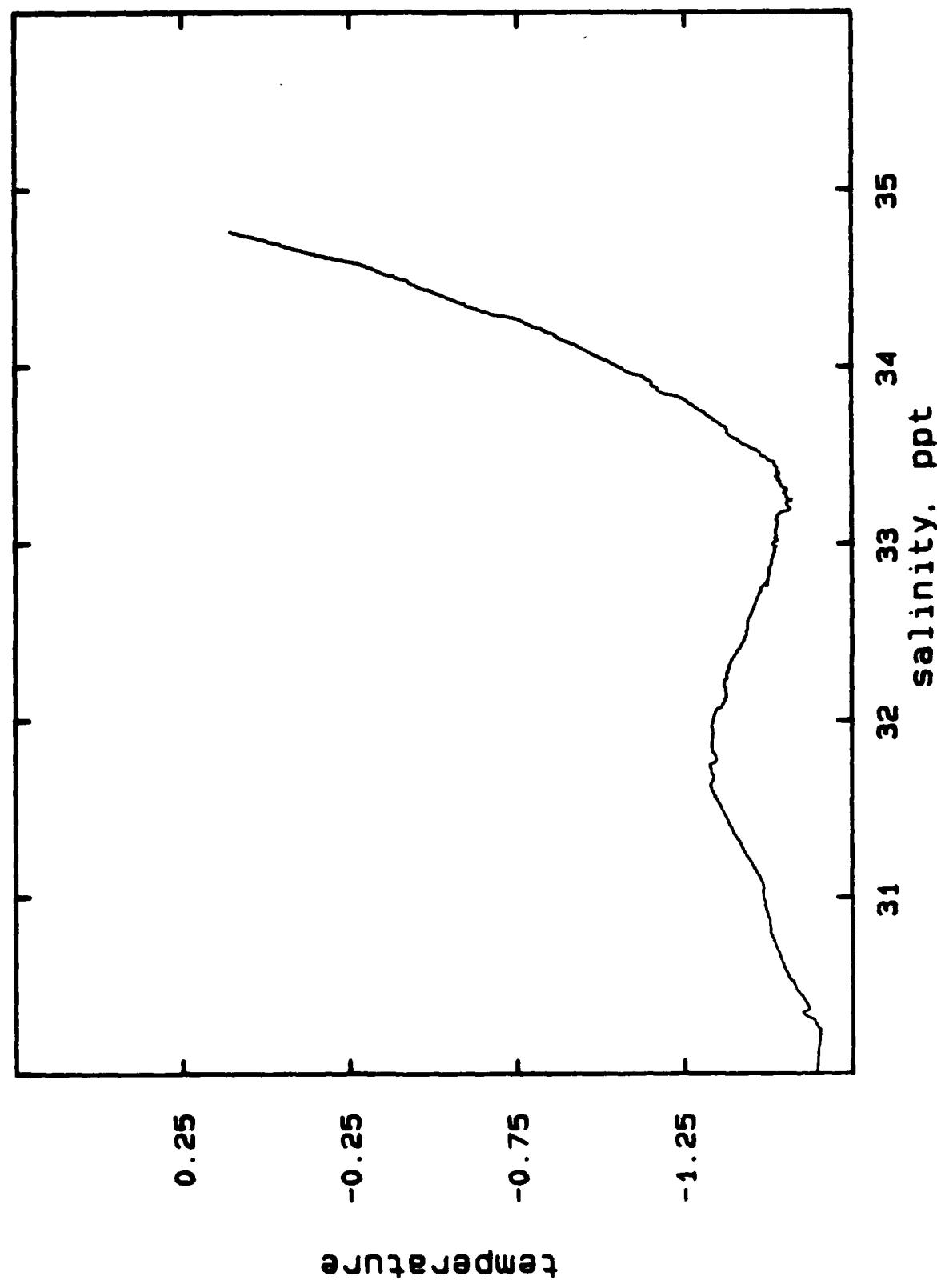
temperature

-1.5 -1.0 -0.5 -0.0 0.5

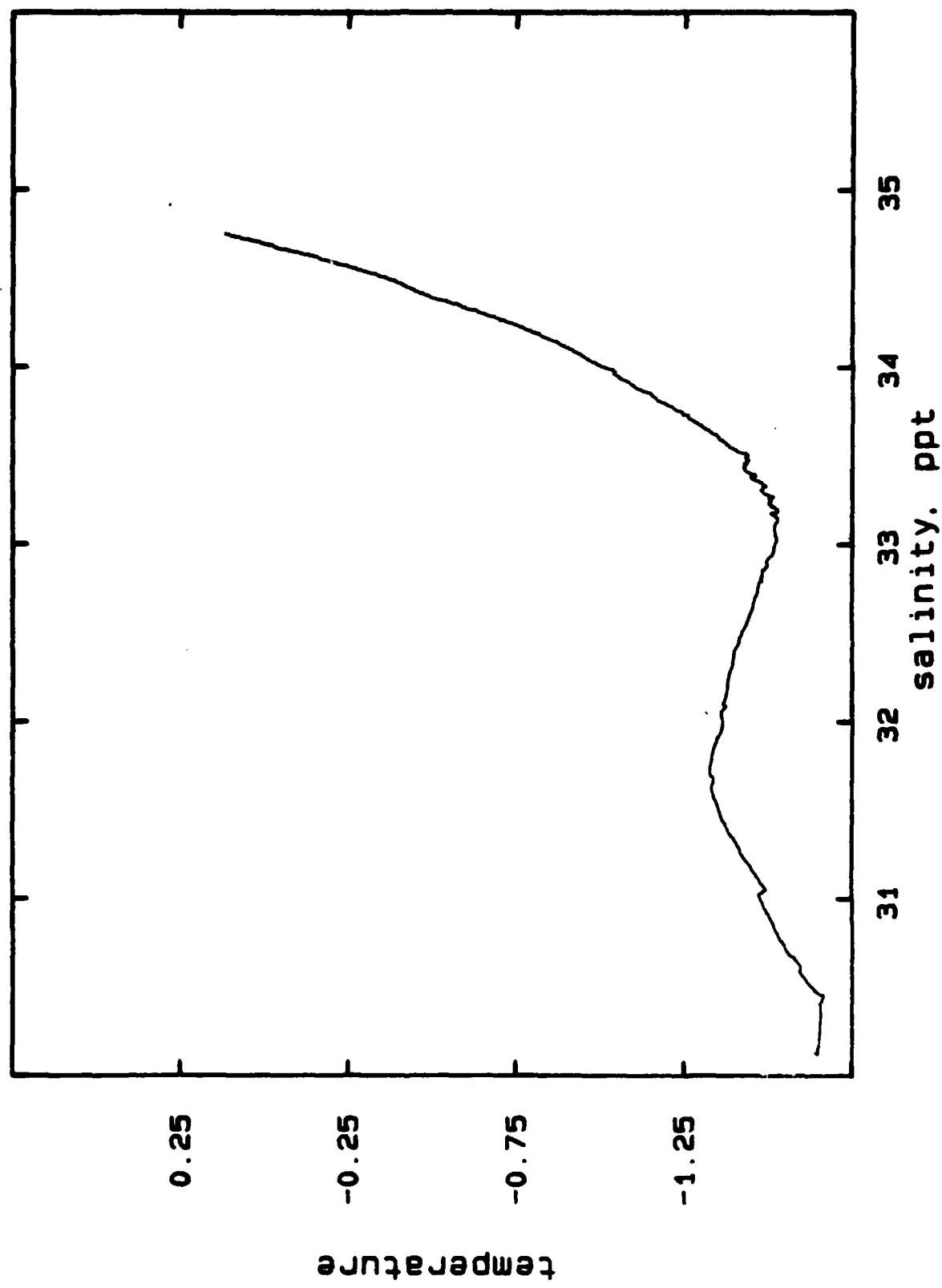


**OBSERVATIONS:****B. T-S DIAGRAMS**

A323B DROP 3



A324B DROP 6



A326A DROP 5

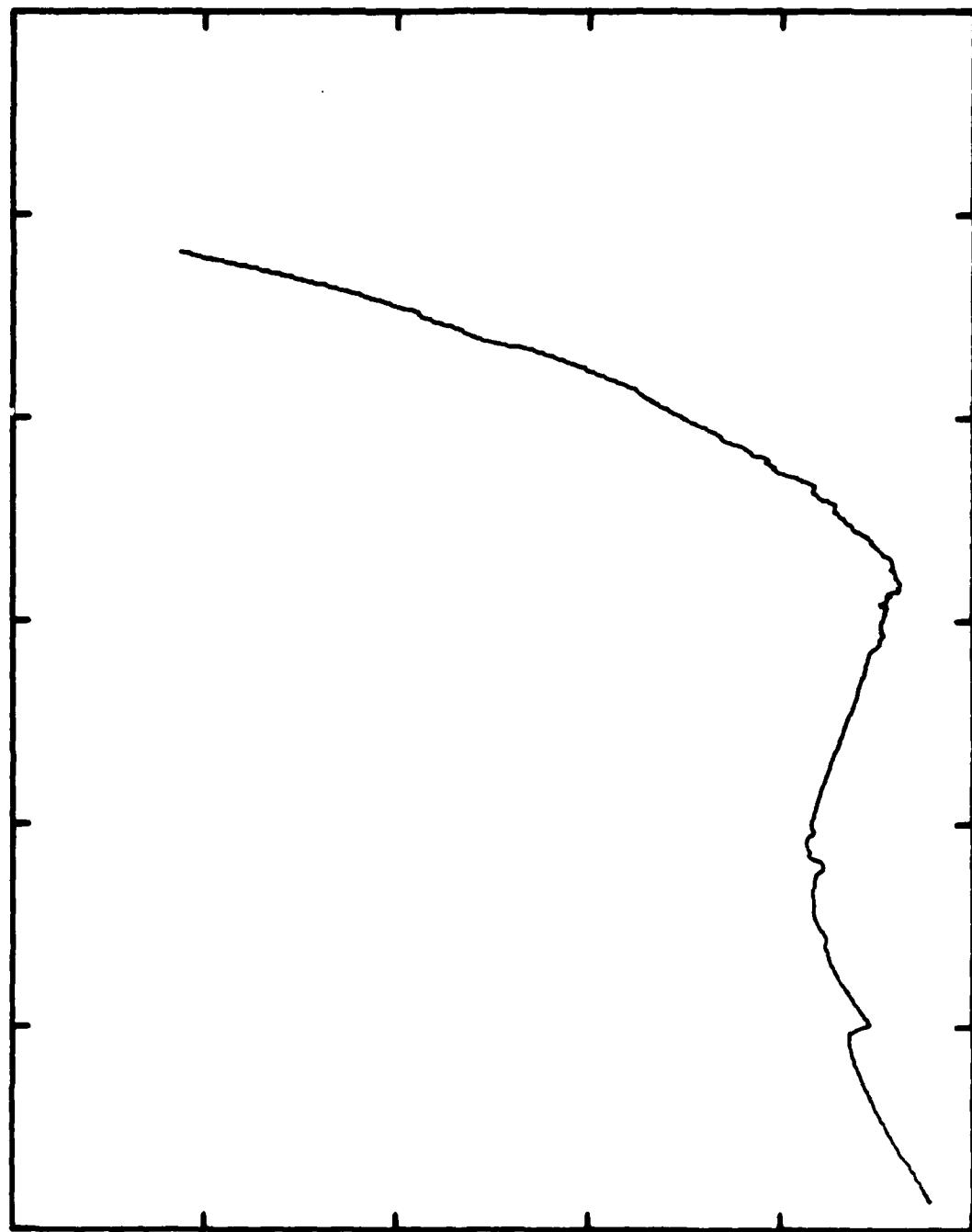
temperature

0.25

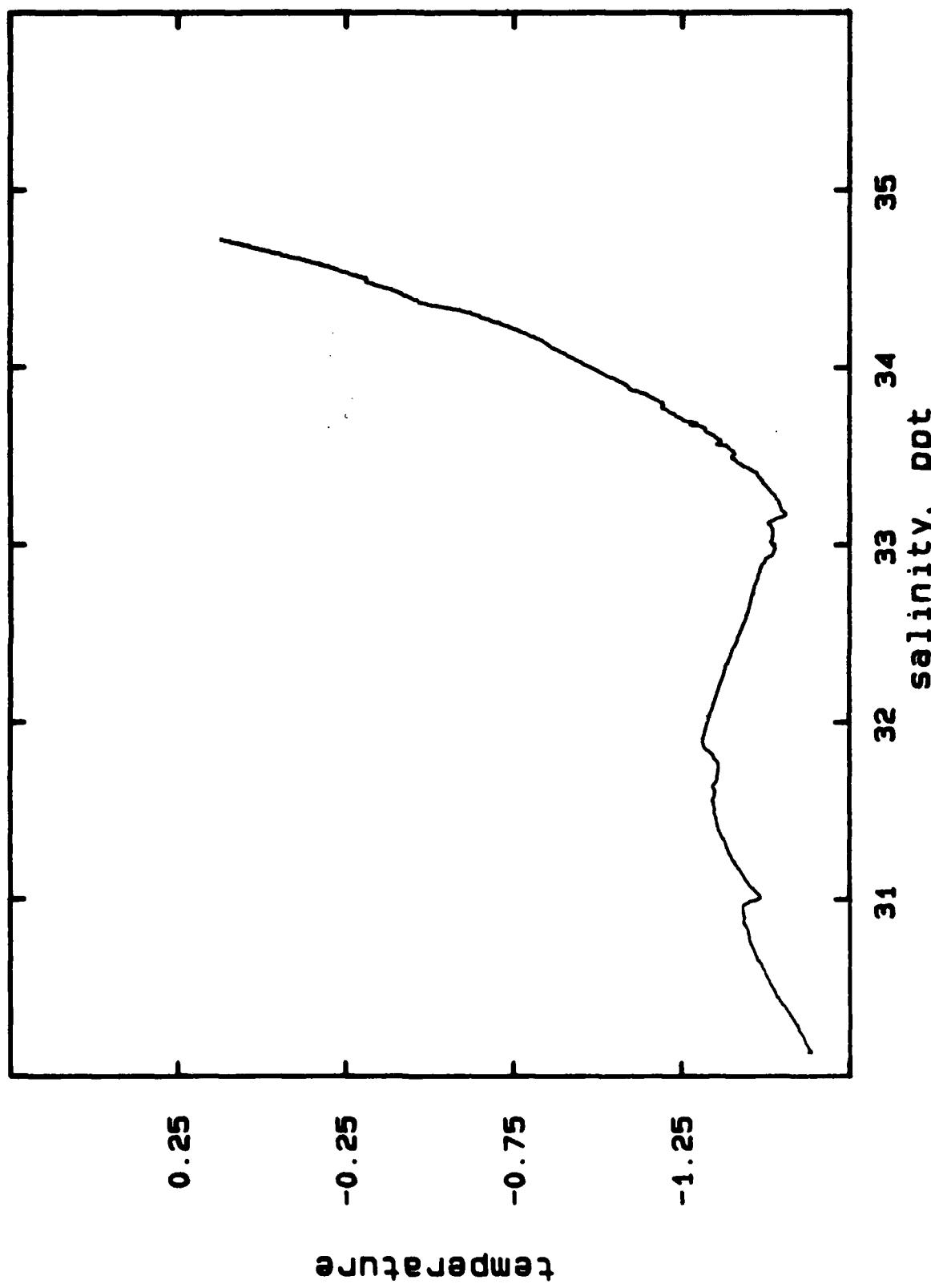
-0.25

-0.75

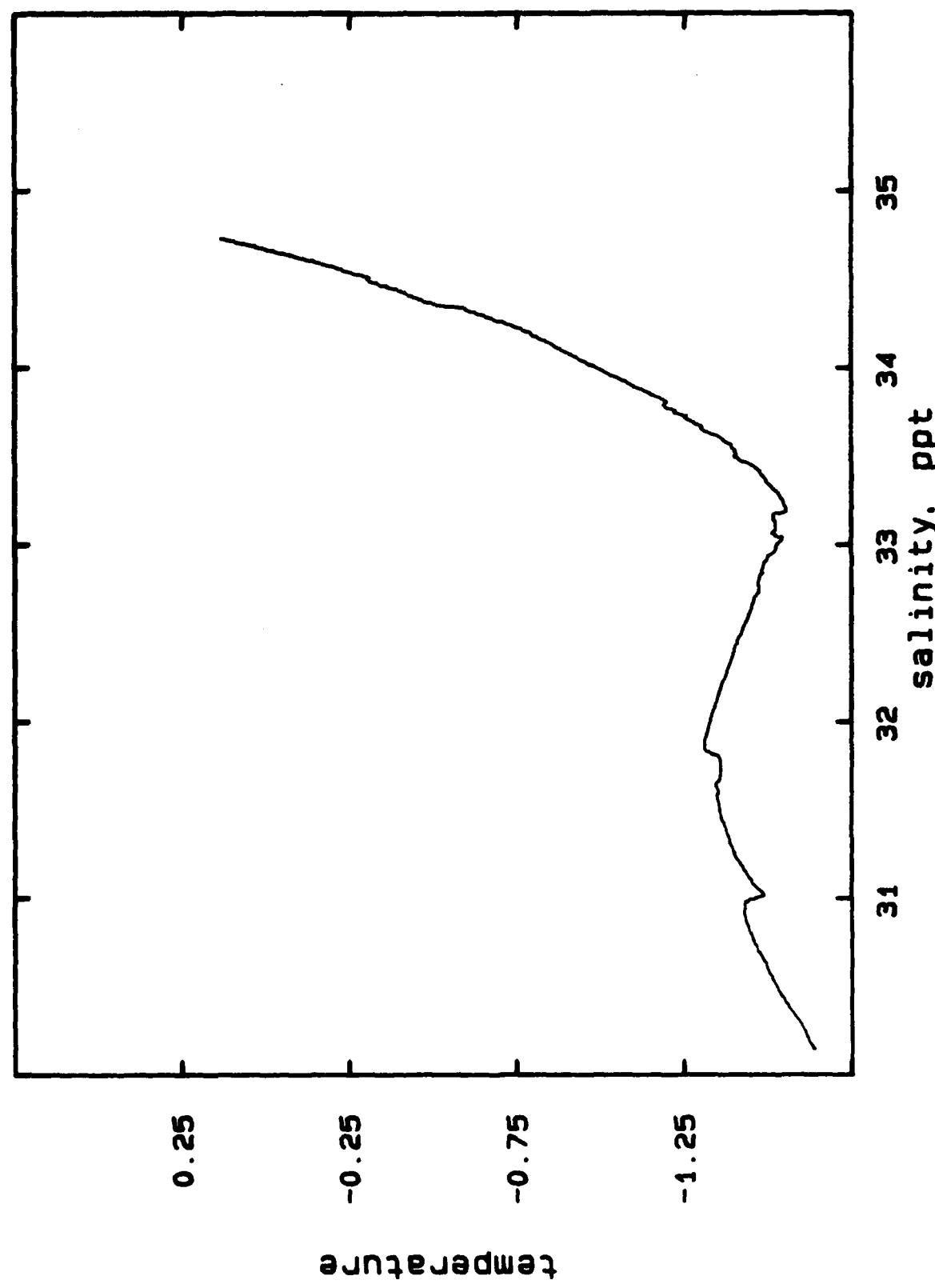
-1.25

35  
34  
33  
32  
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3  
2  
1

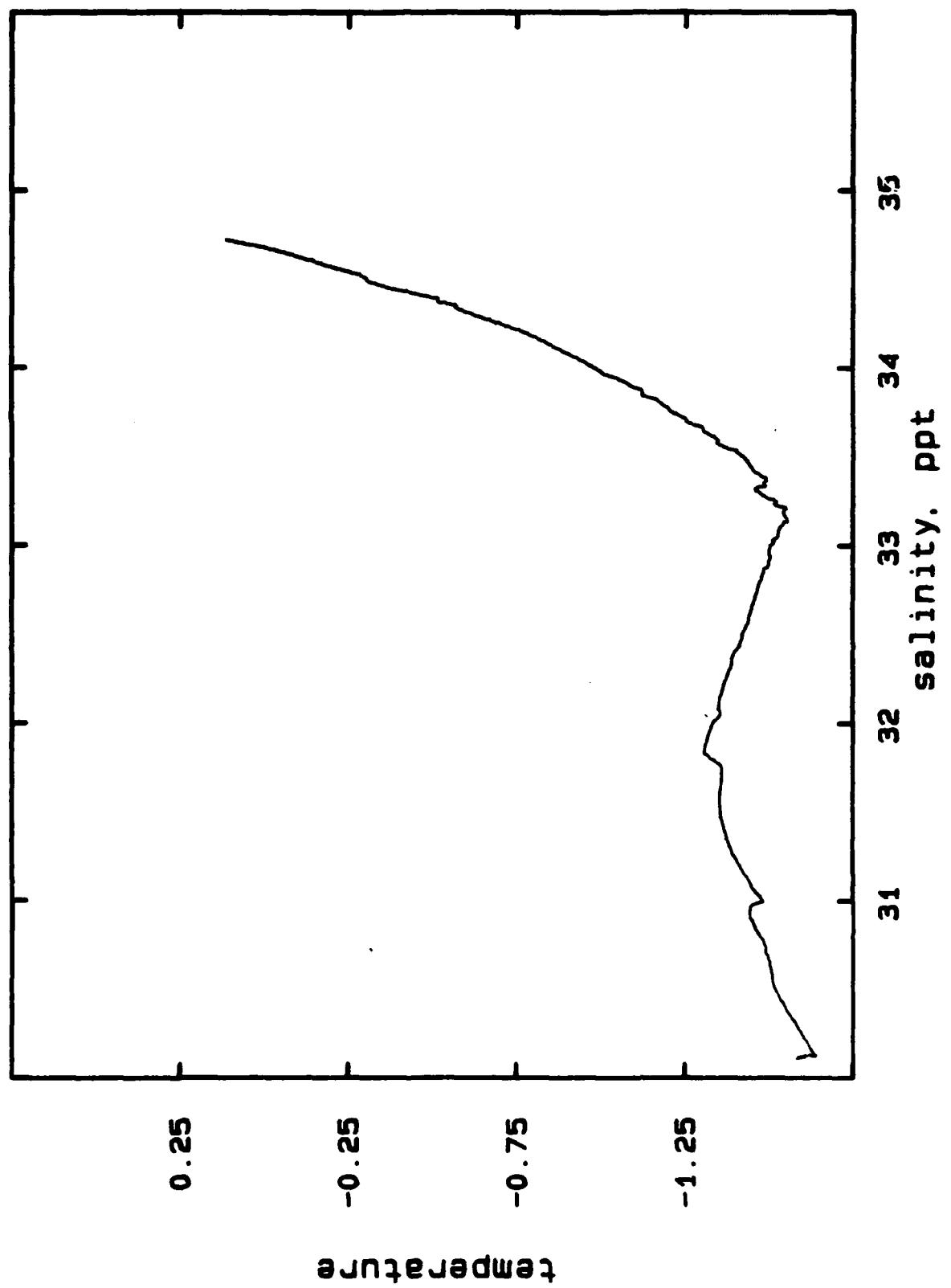
A326B DROP 3



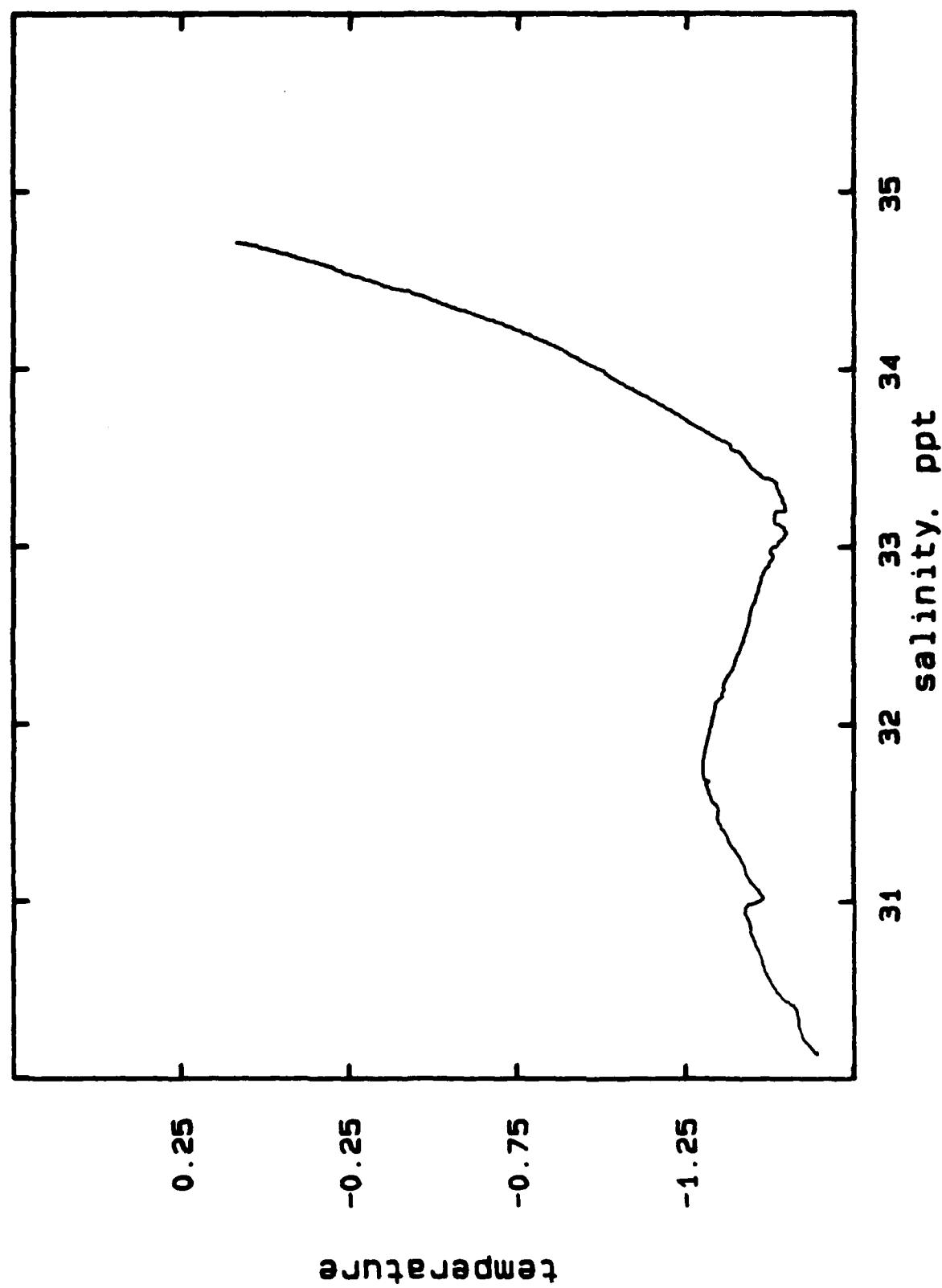
A326C DROP 3



A327A DROP 3



A327B DROP 3



A328A DROP 2

0.25

-0.25

-0.75

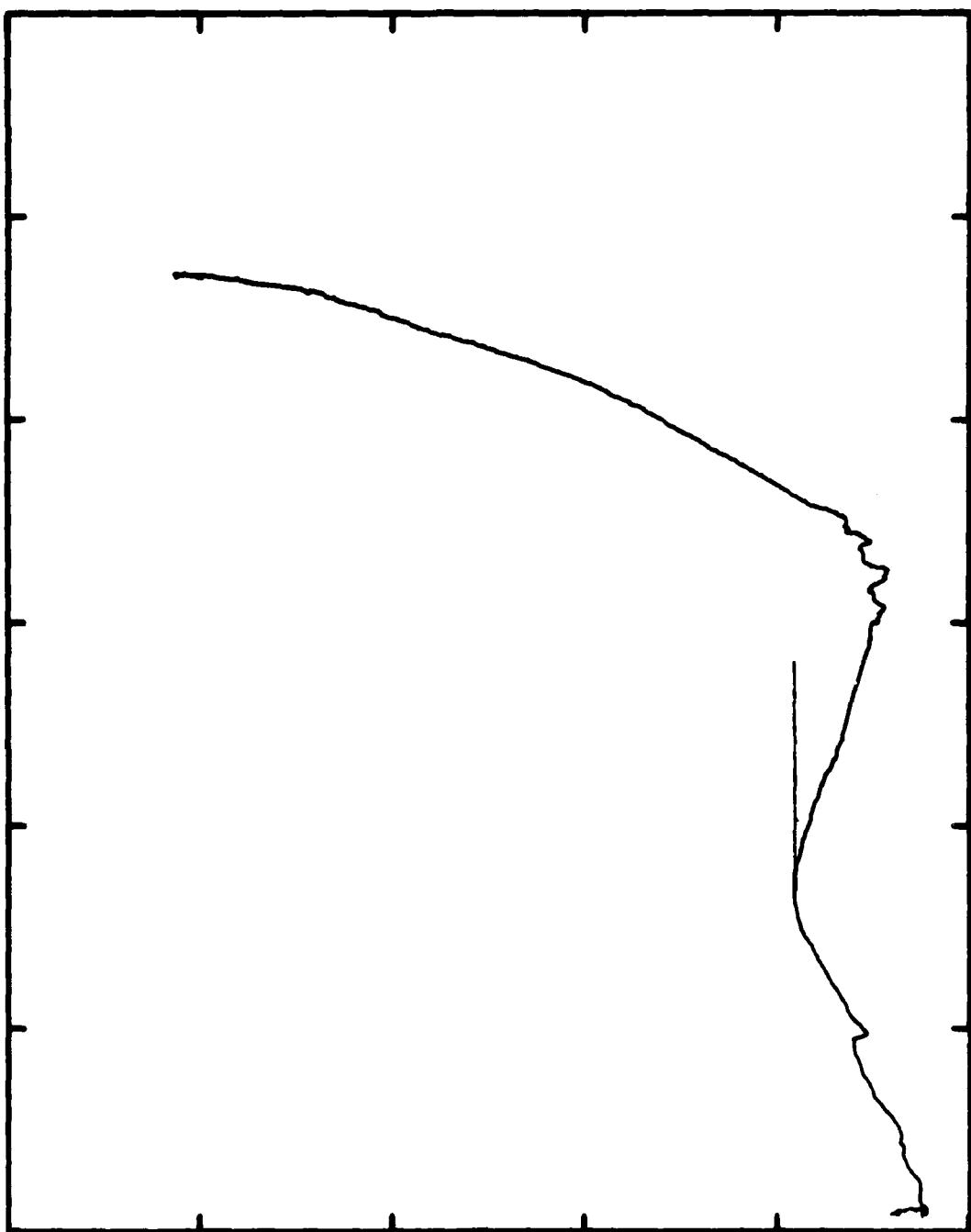
-1.25

temperature

31 32 33 34 35

salinity. ppt

34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



A329C DROP 1

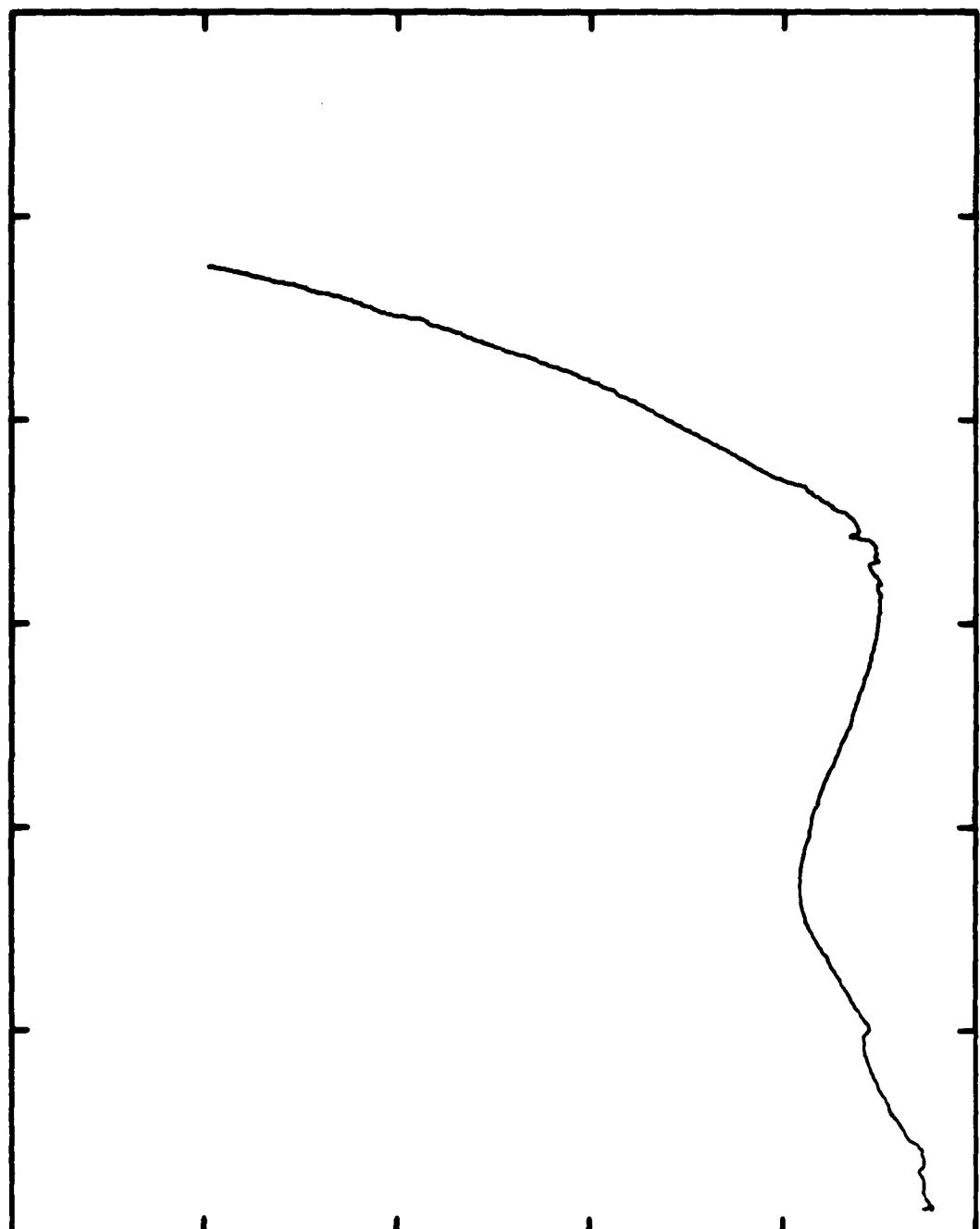
0.25

-0.25

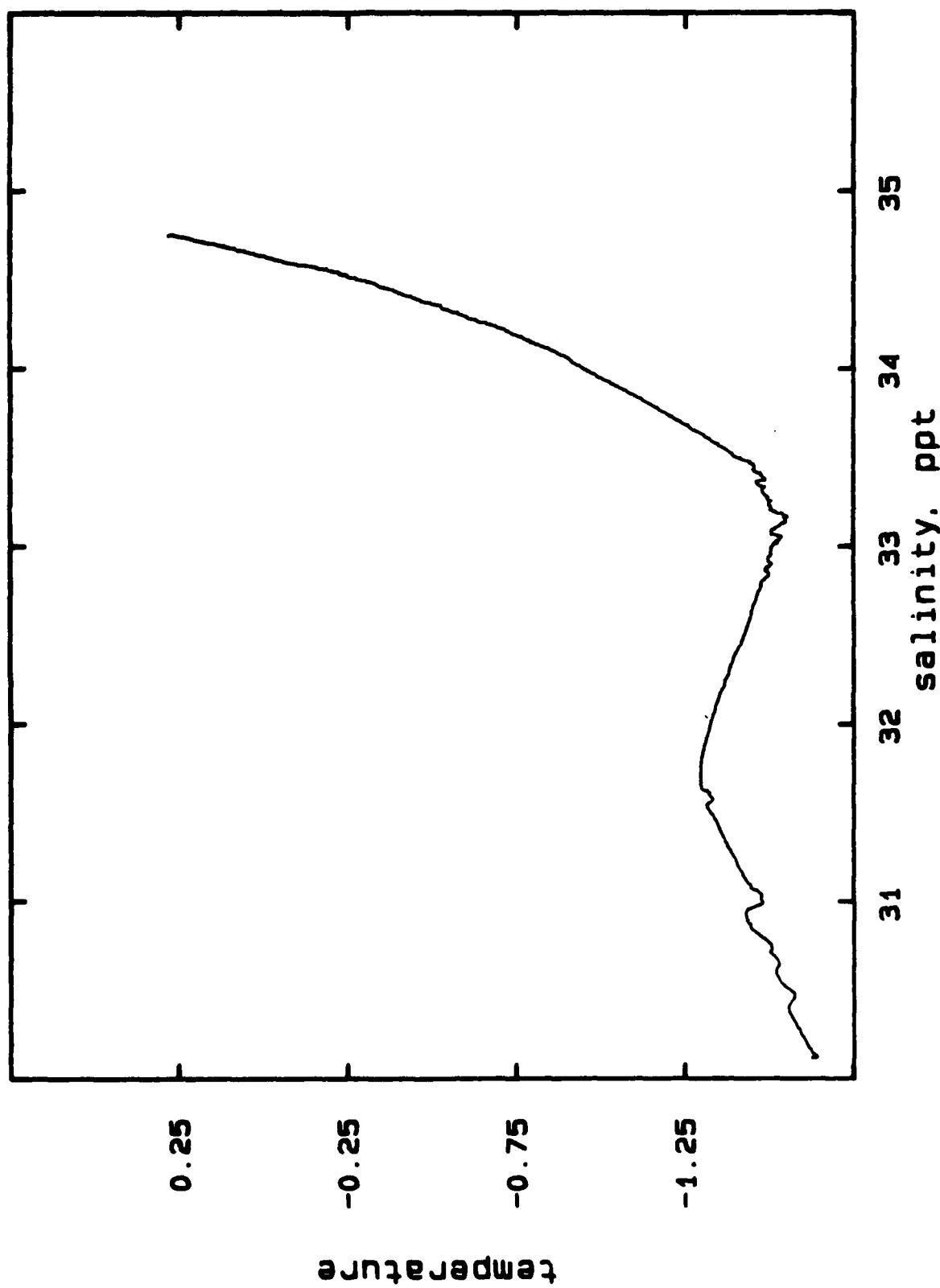
-0.75

-1.25

temperature

31 32 33 34 35  
salinity. ppt

A330C DROP 2



A323A DROP 6

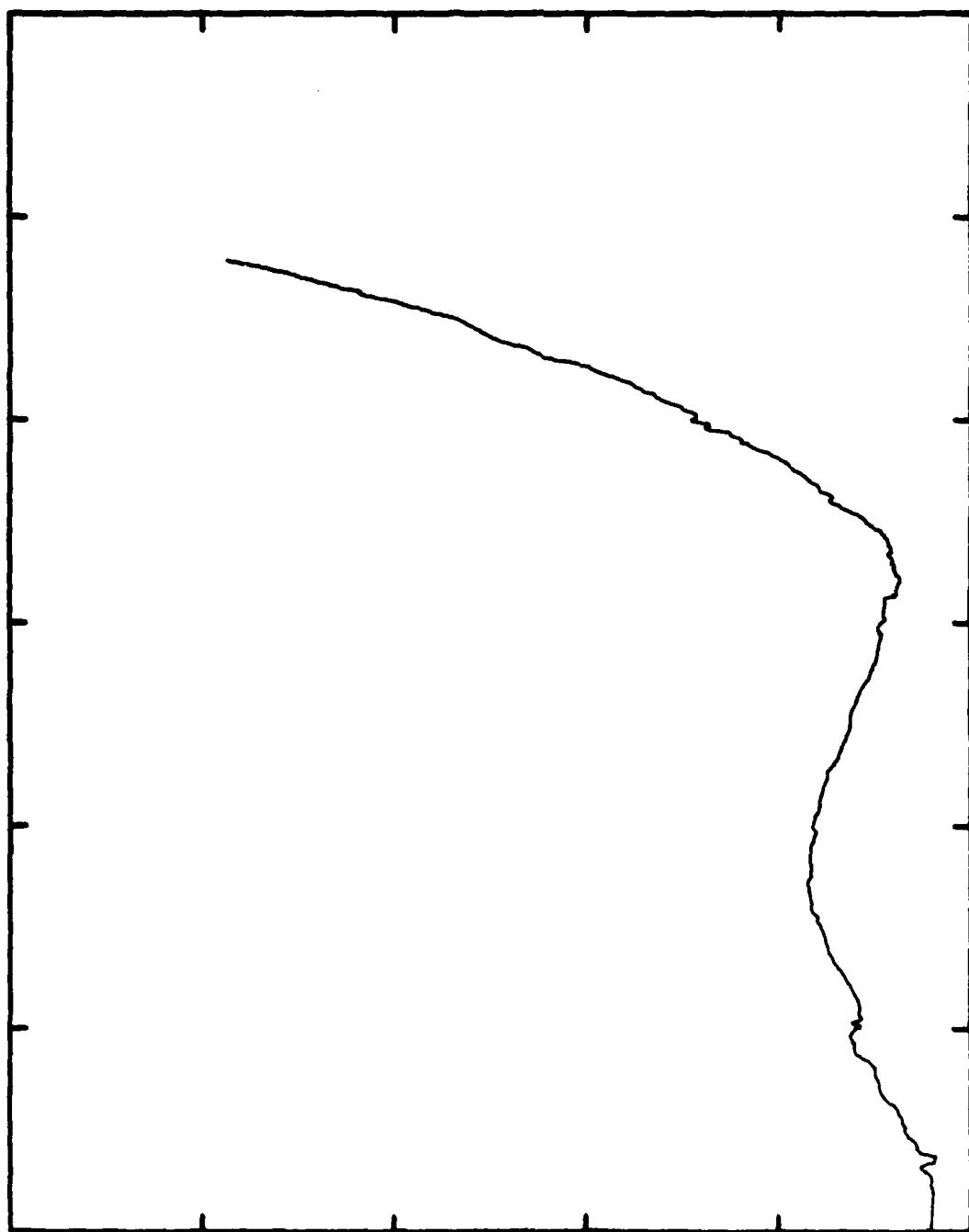
0.25

-0.25

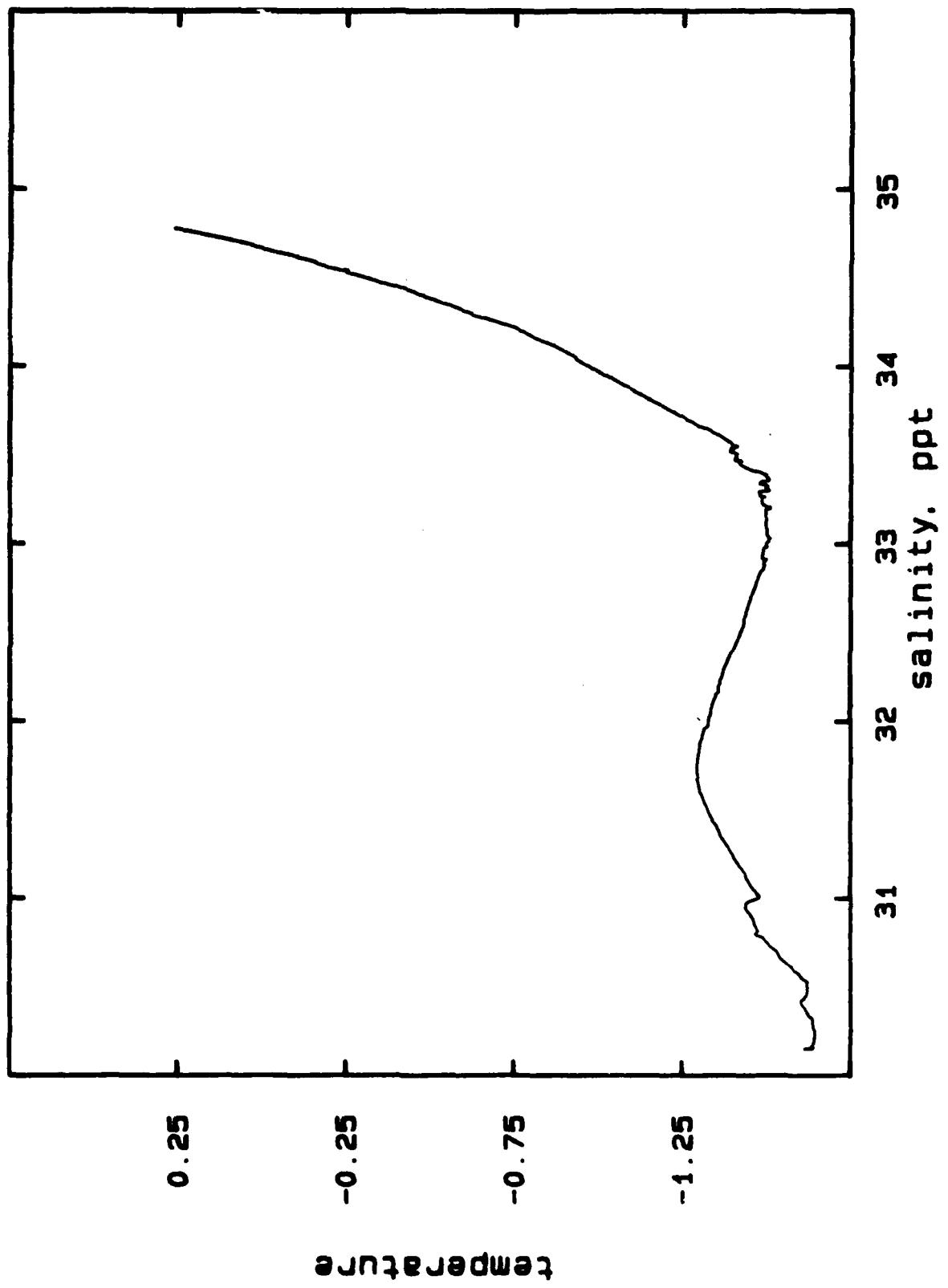
-0.75

-1.25

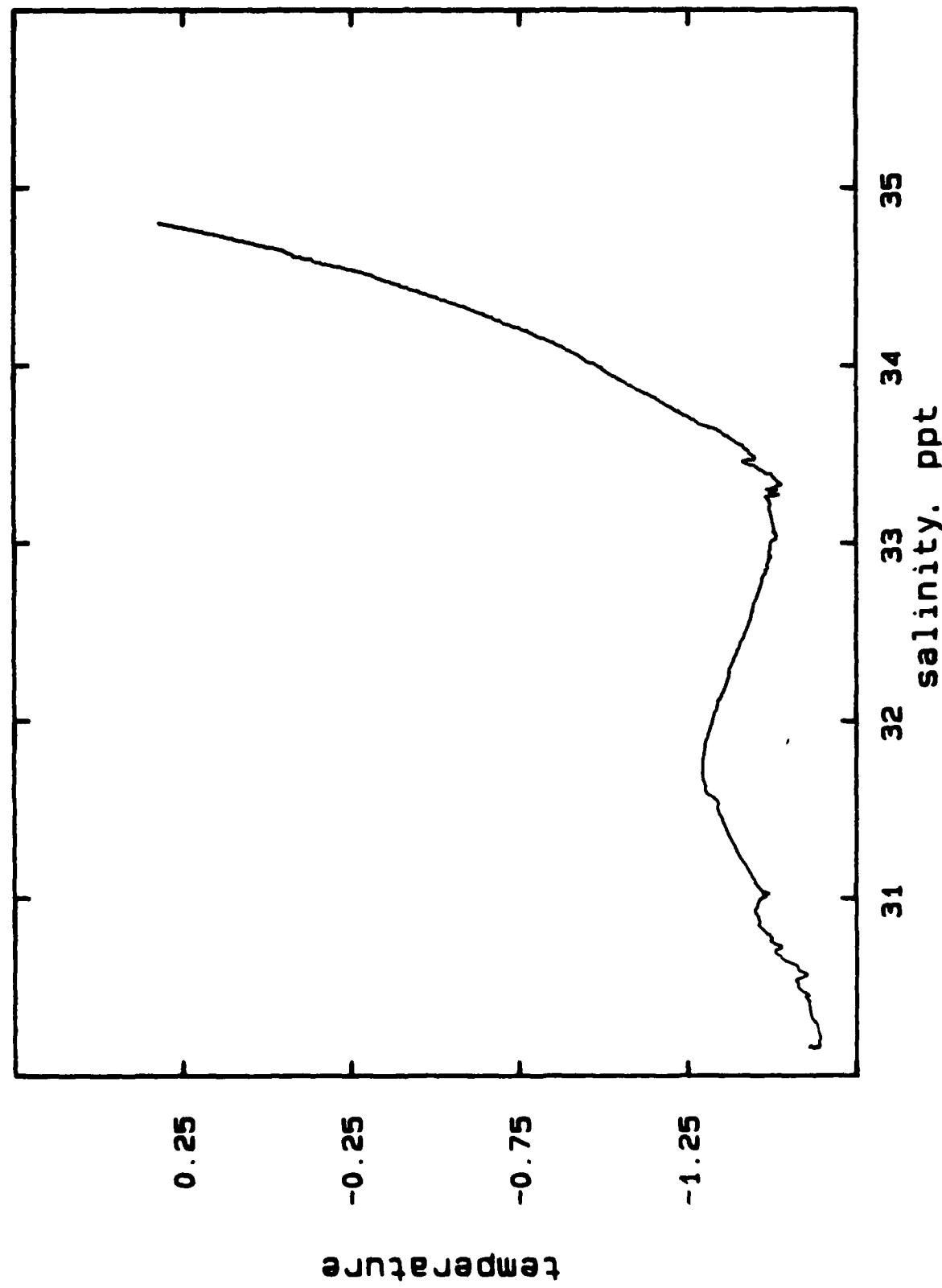
temperature

31 32 33 34 35  
salinity. ppt

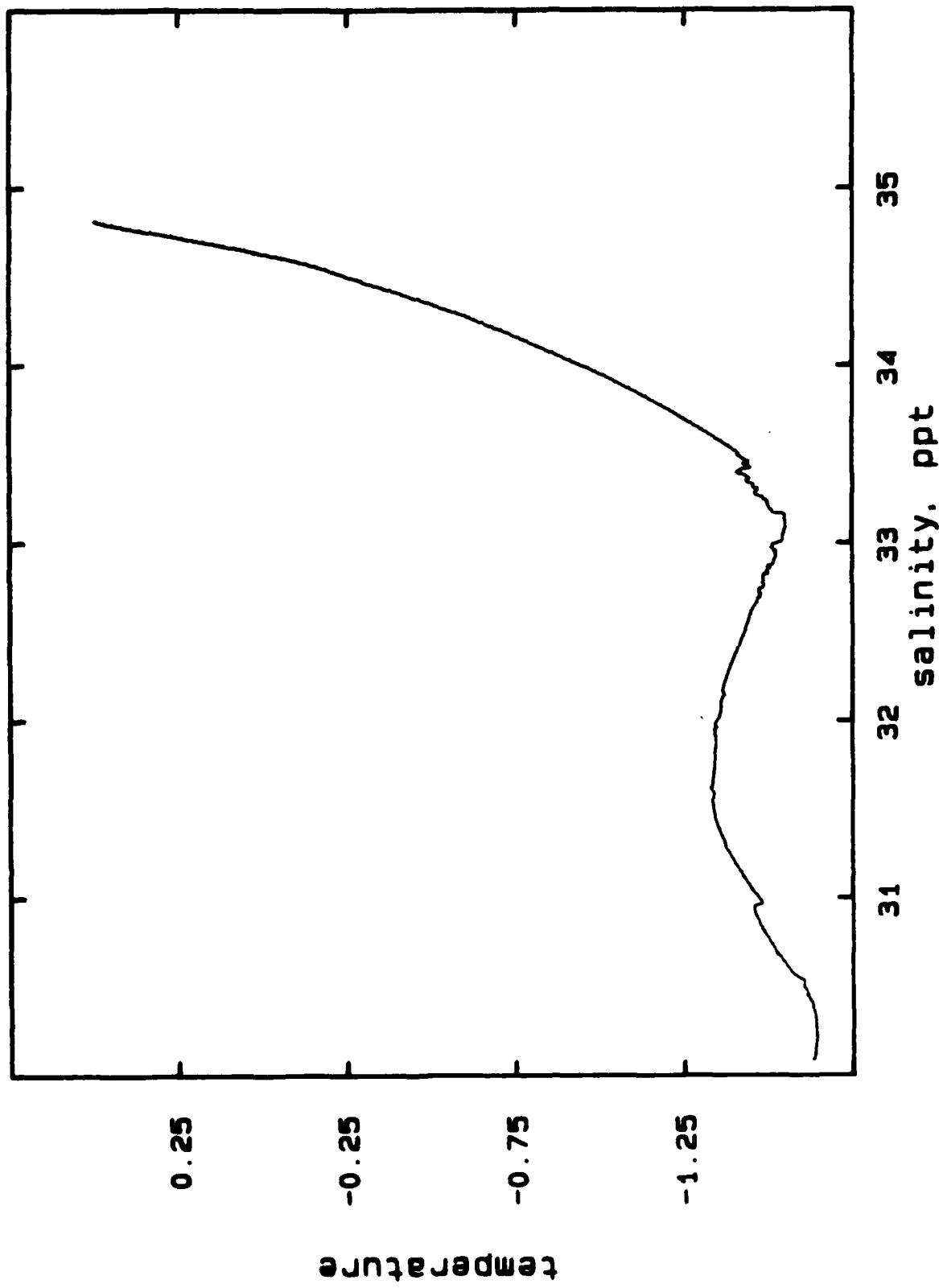
A401A DROP 3



A402A DROP 2



A417A DROP 2



A417B DROP 13

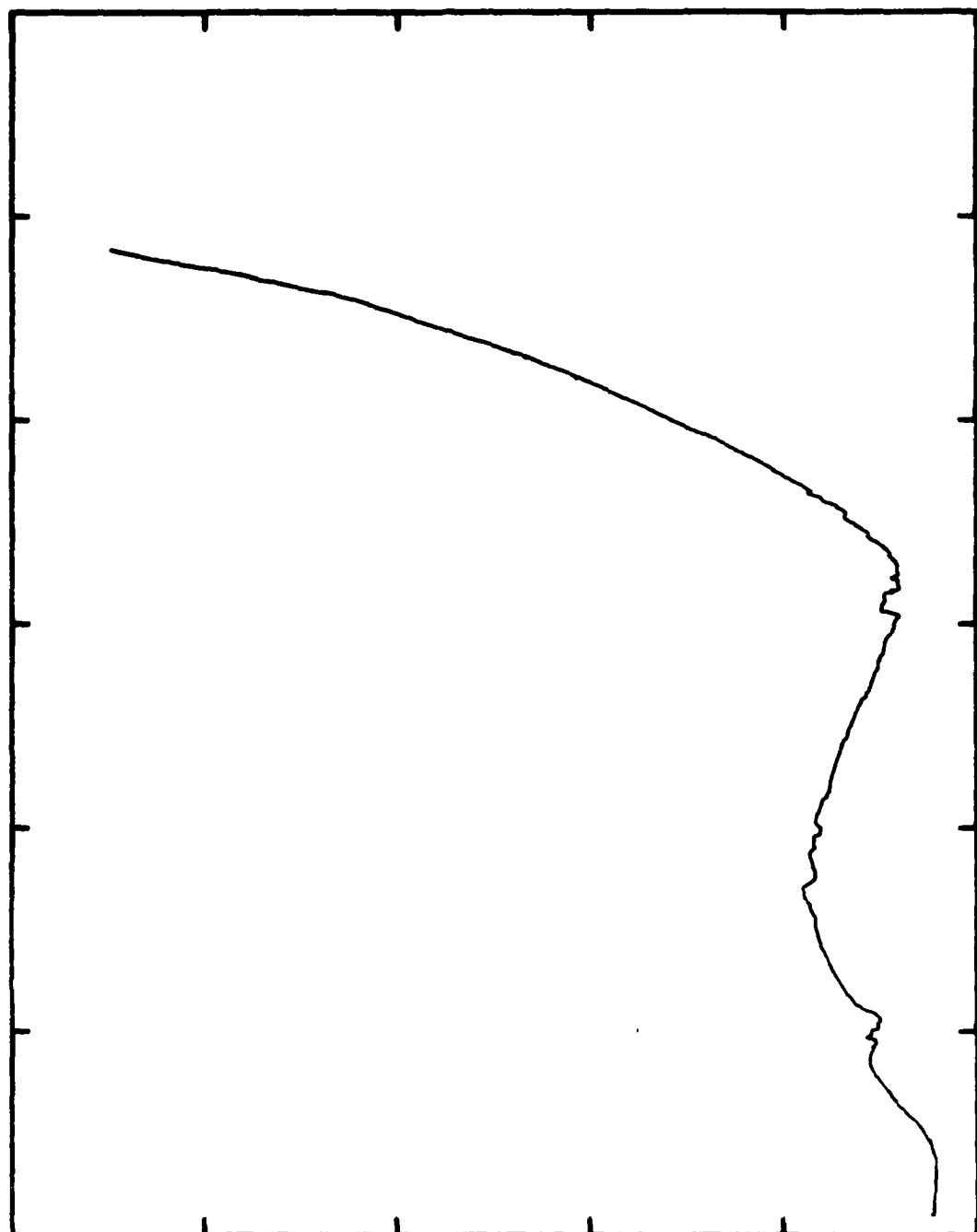
0.25

-0.25

-0.75

-1.25

temperature

31 32 33 34 35  
salinity. ppt

AD-A181 764

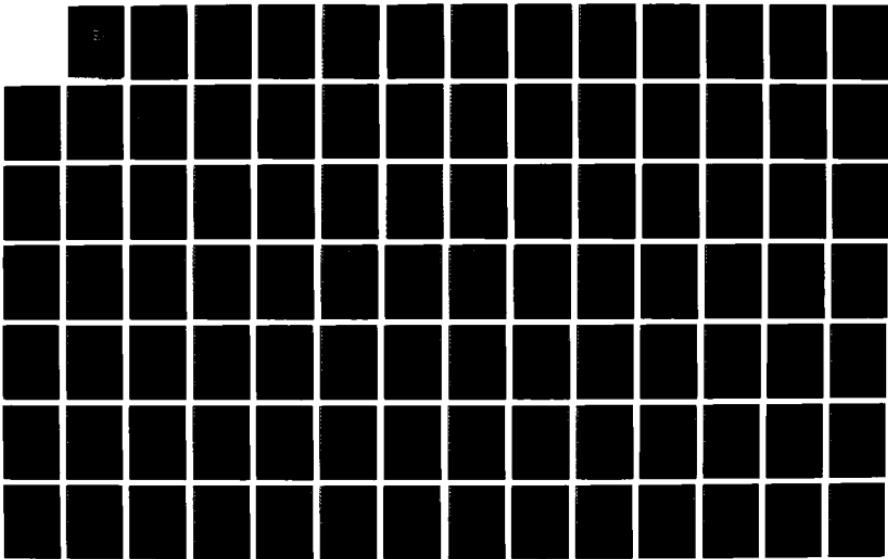
MICROSTRUCTURE CASTS DURING AIHEX (ARCTIC INTERNAL WAVE  
EXPERIMENT) A SUMMARY(U) OREGON STATE UNIV CORVALLIS  
COLL OF OCEANOGRAPHY T M DILLON ET AL. APR 85 DATA-122  
N00014-84-C-0218

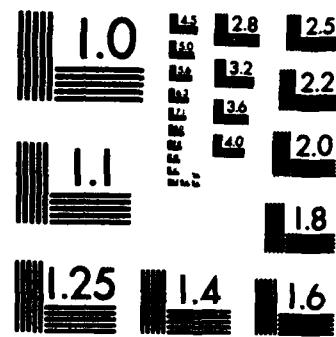
2/5

UNCLASSIFIED

F/G 8/3

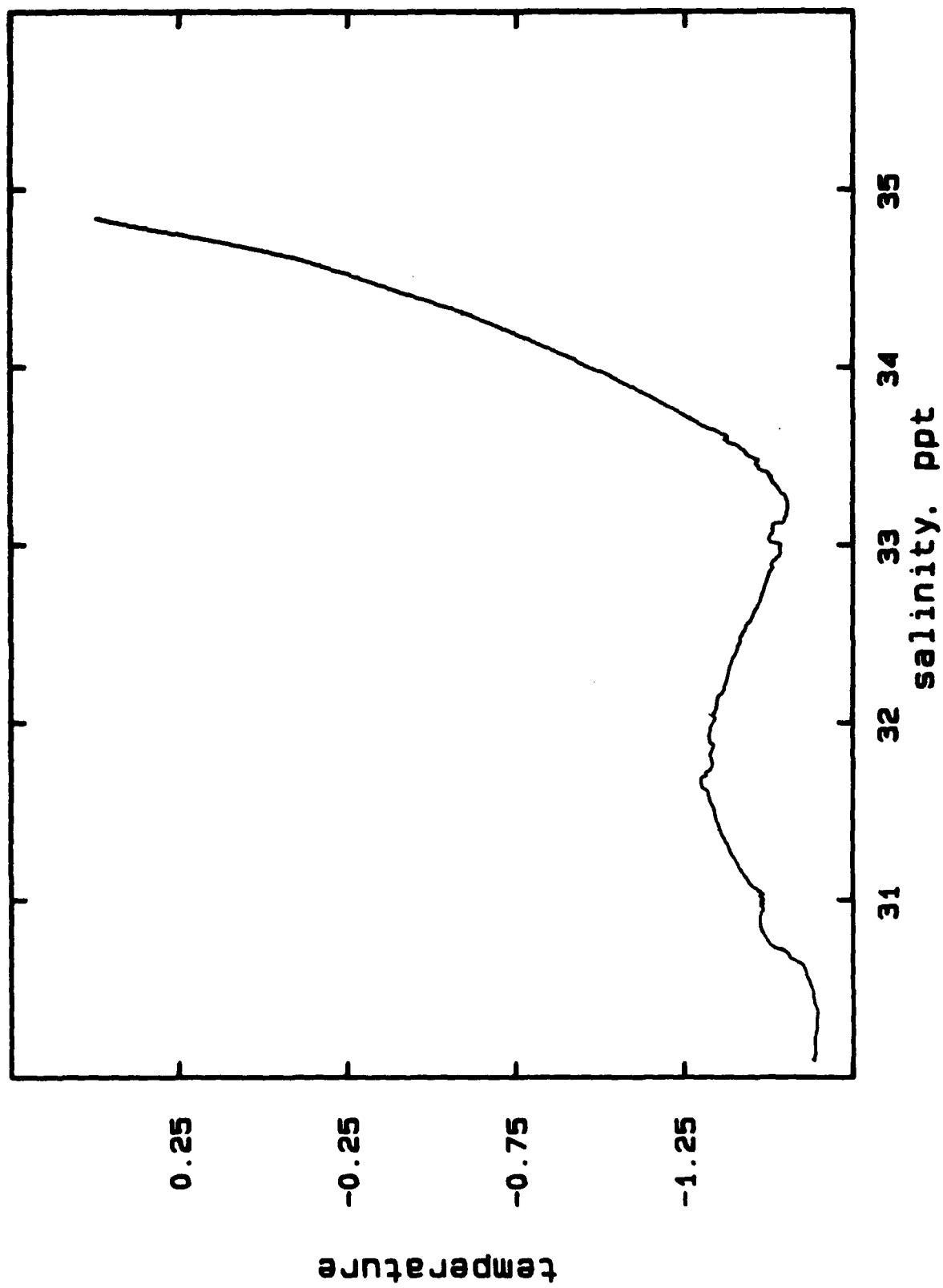
NL



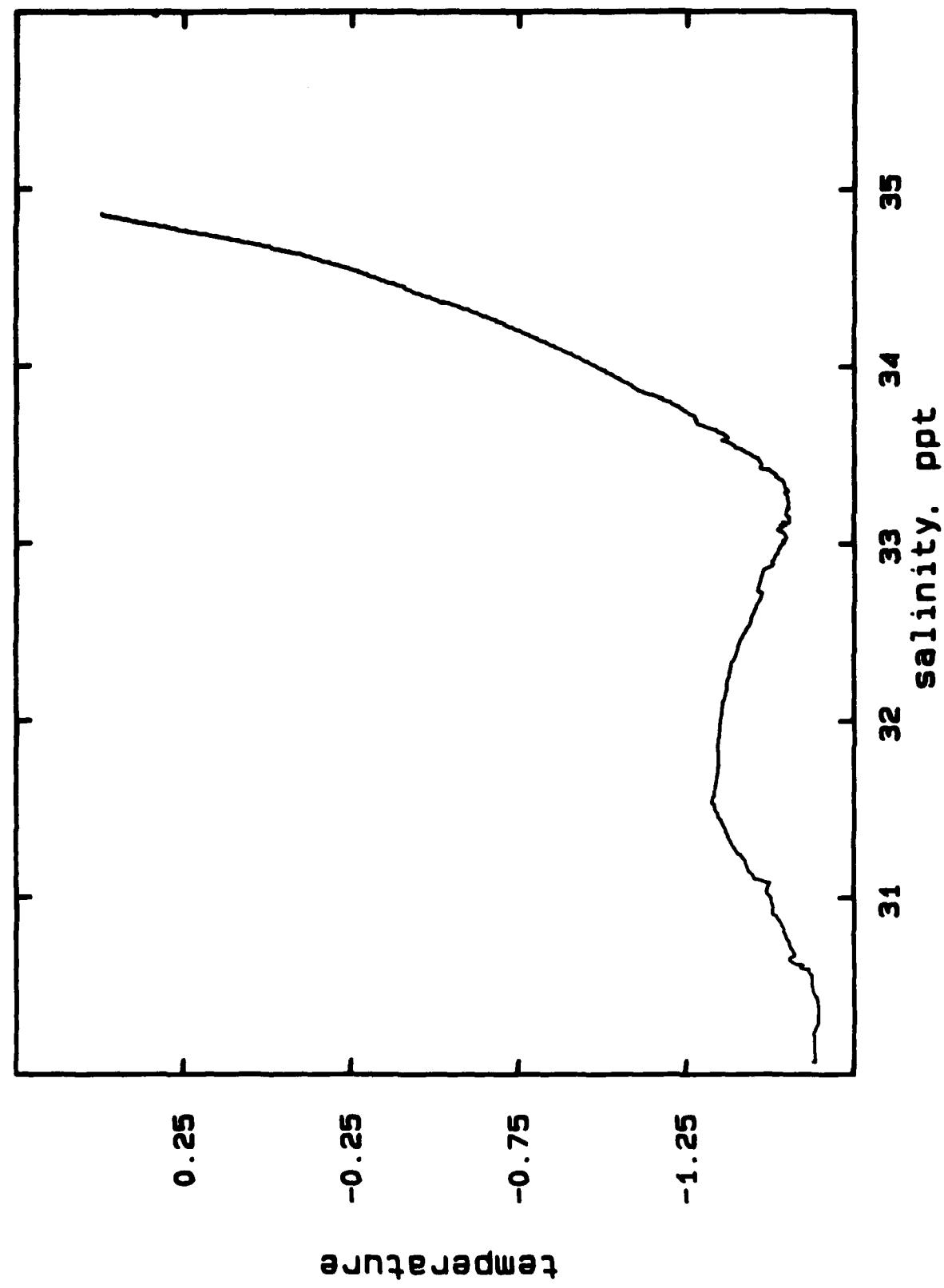


MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

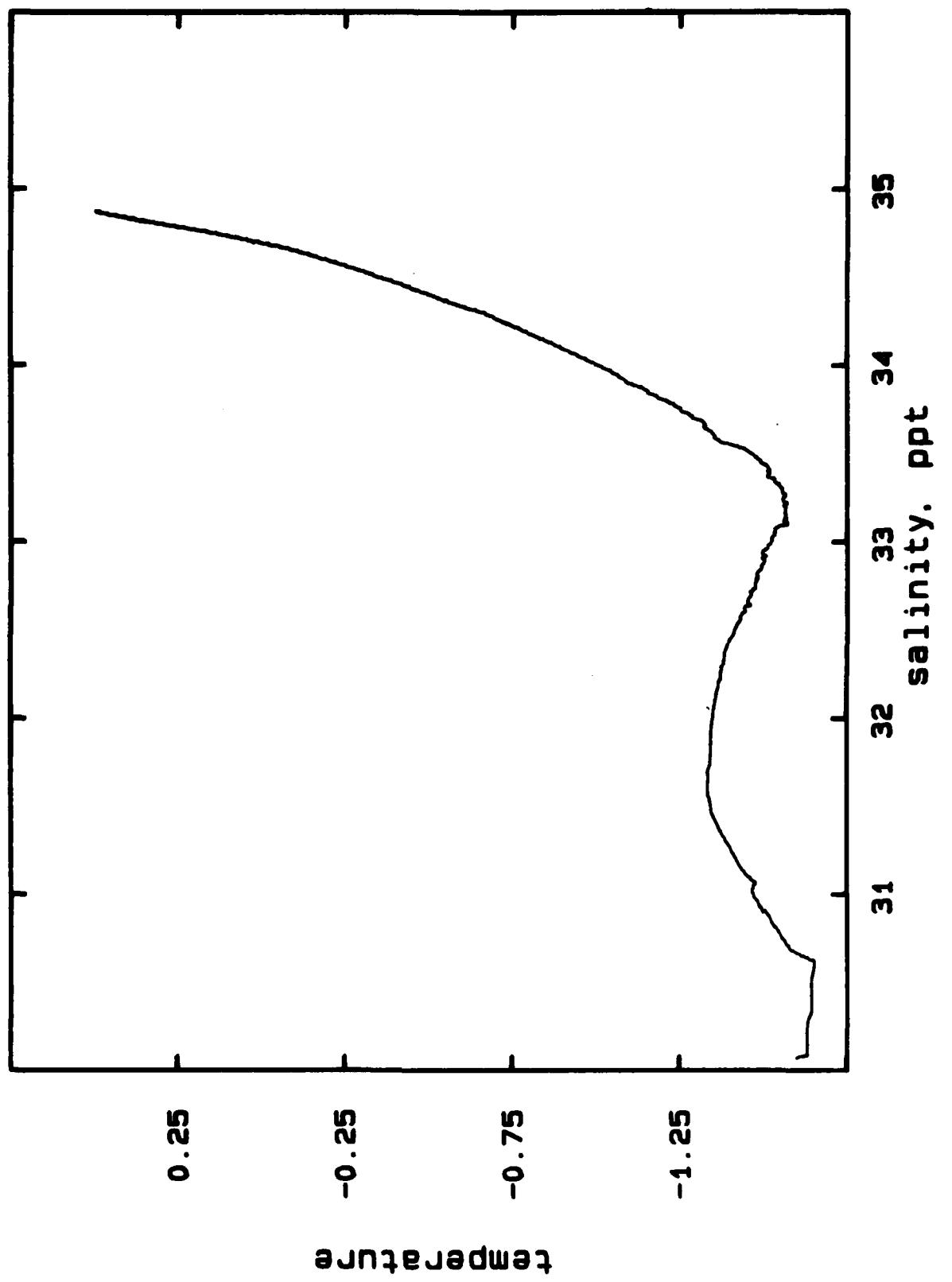
A417C DROP 1



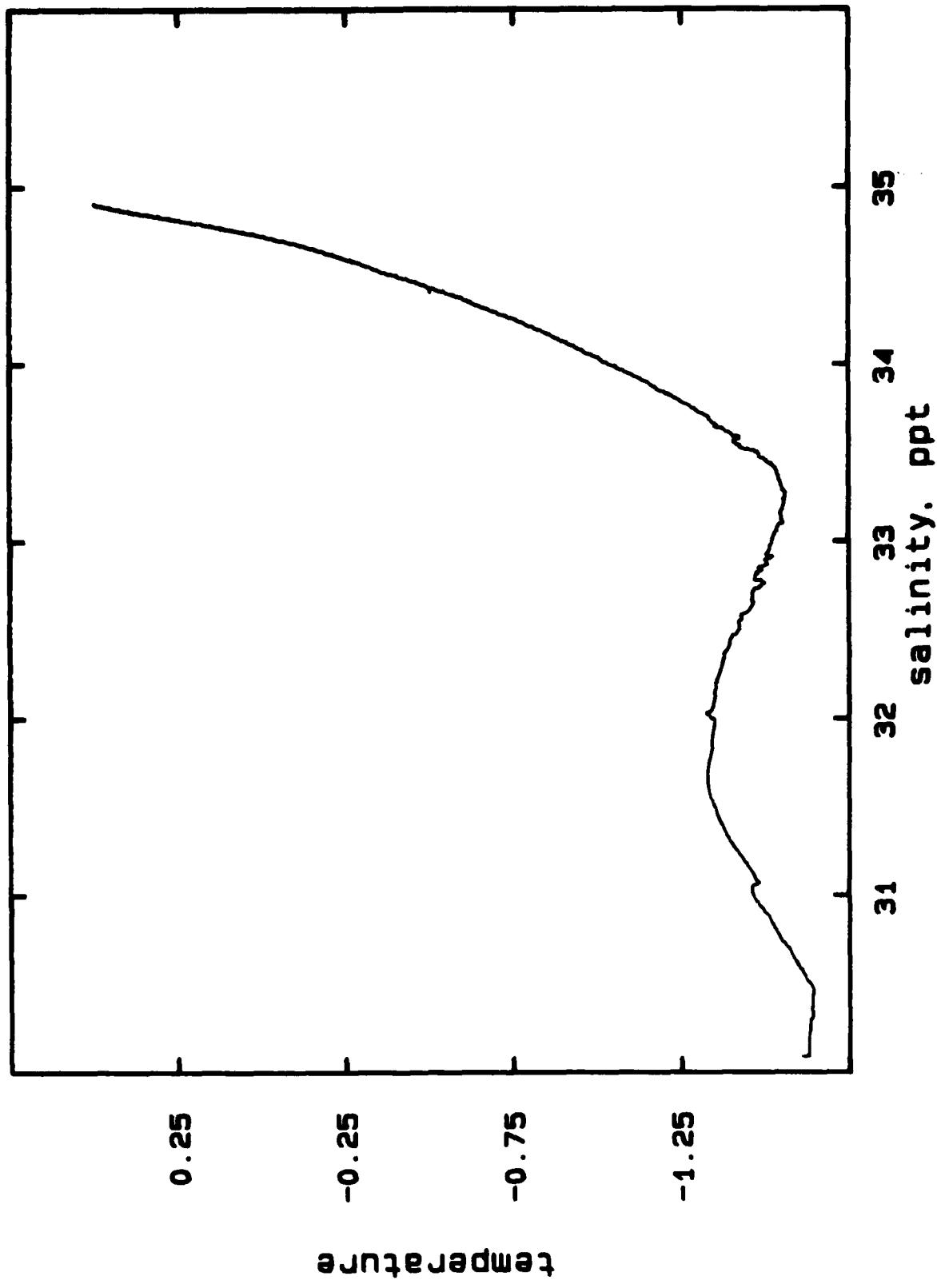
A417D DROP 1

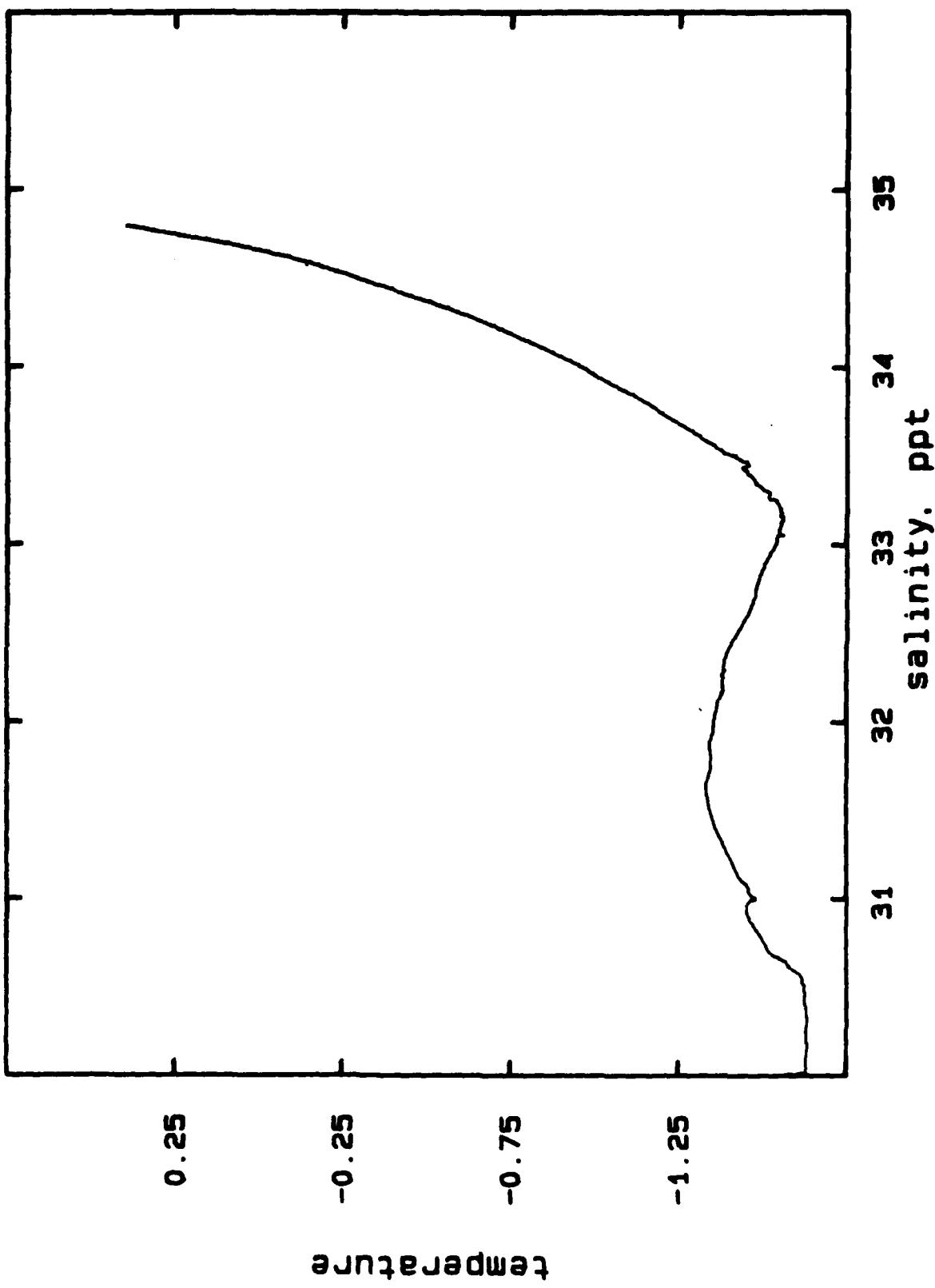


A417E DROP 1

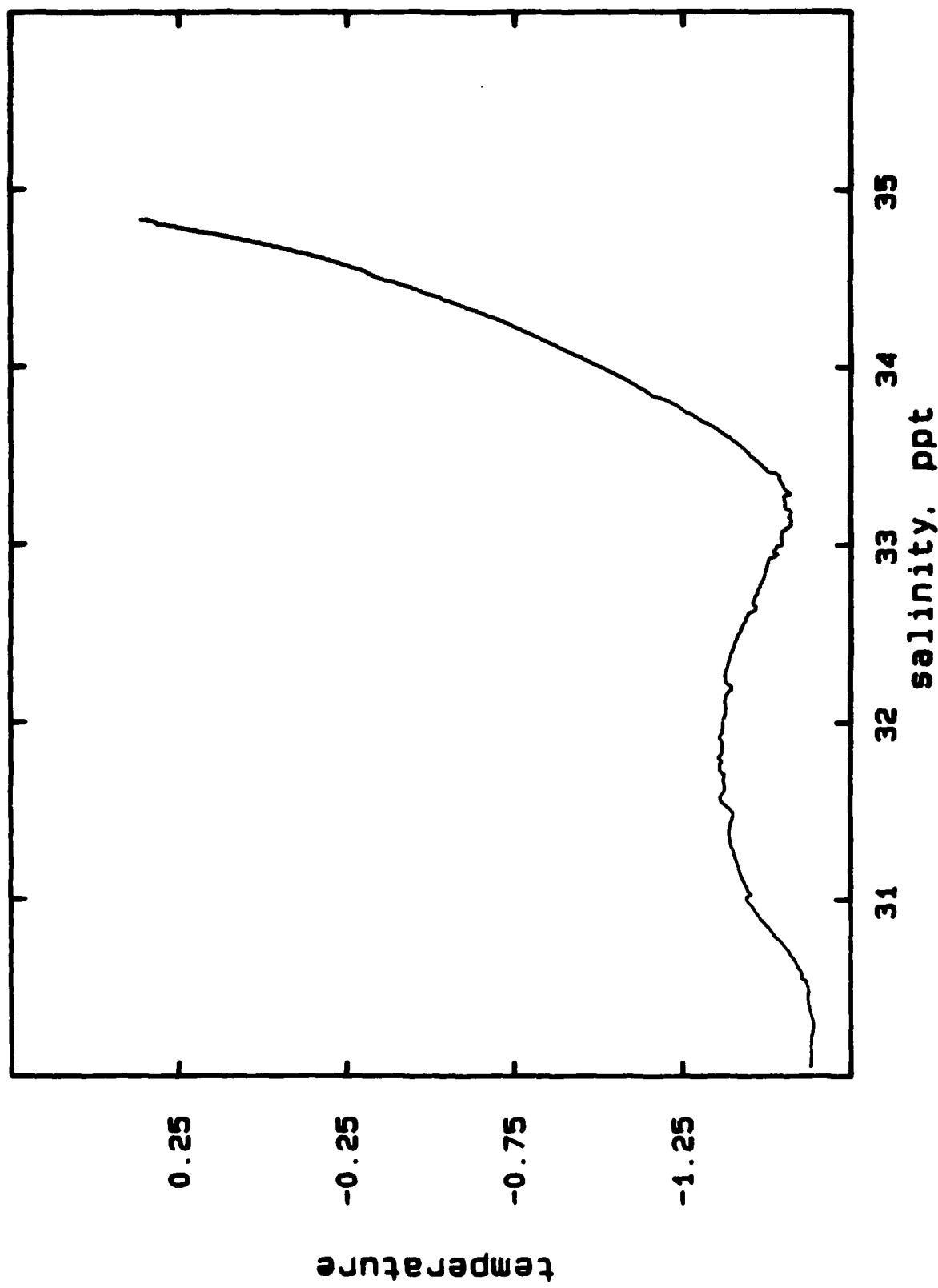


A417F DROP 18

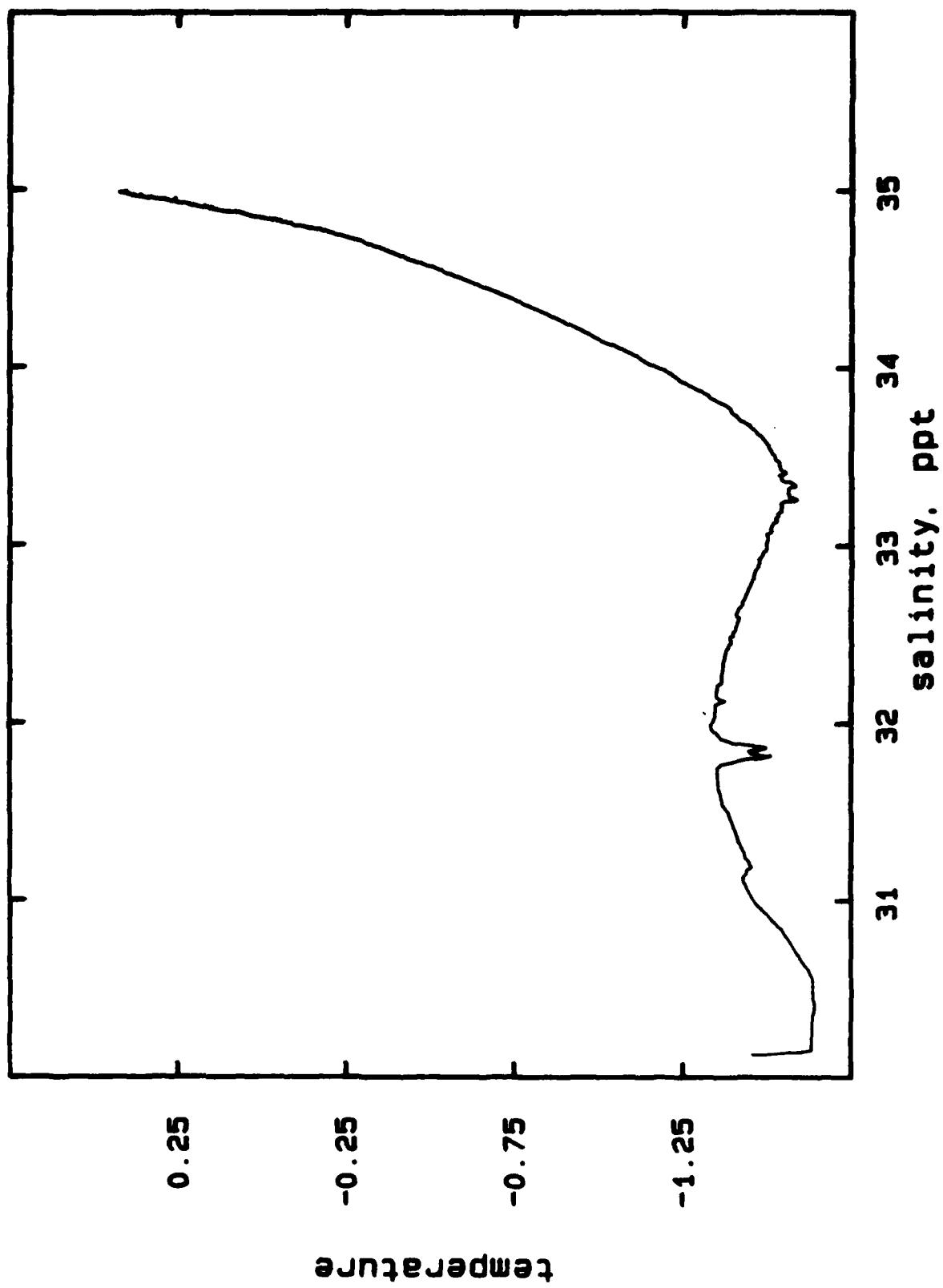




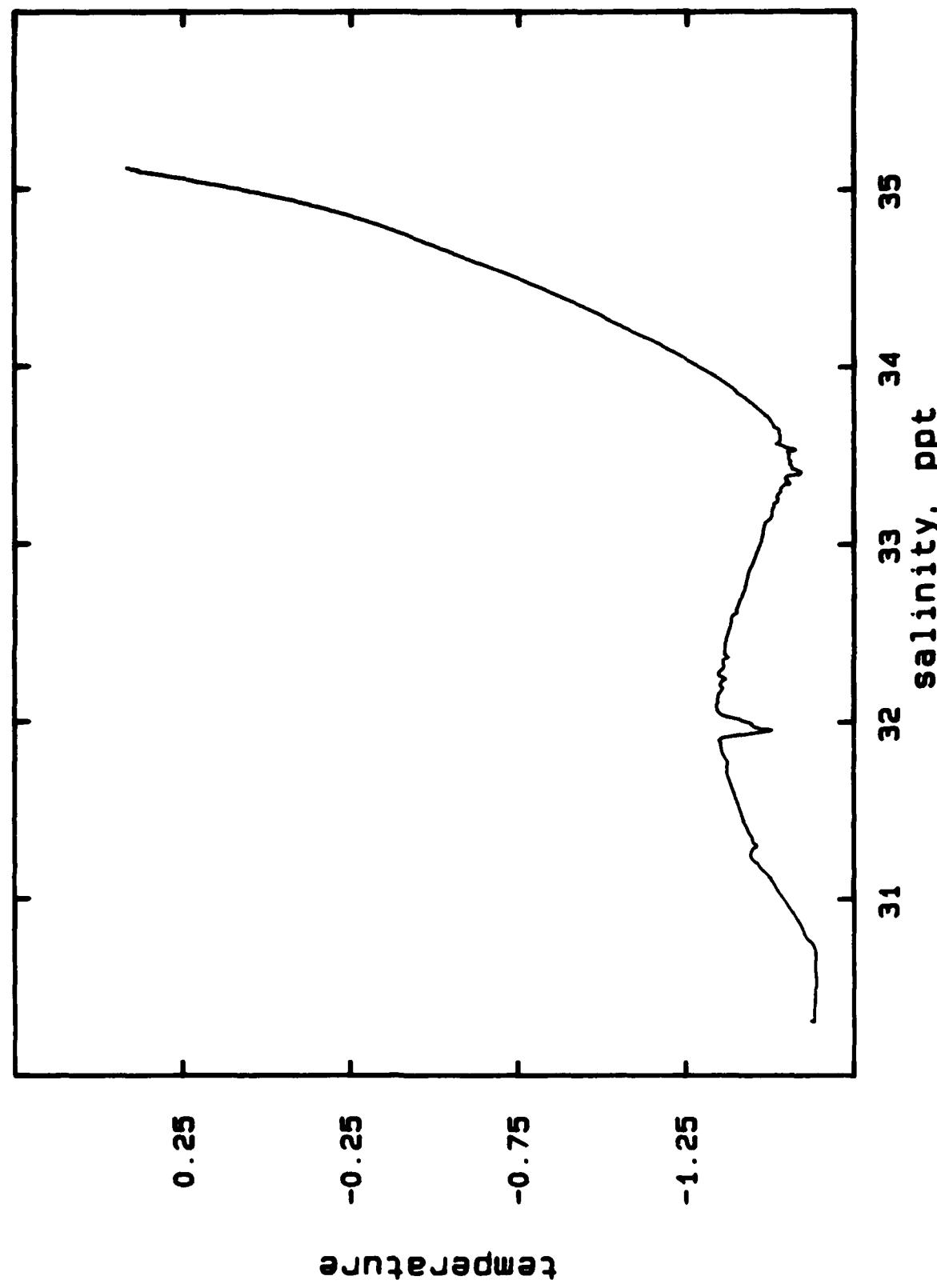
A418B DROP 7



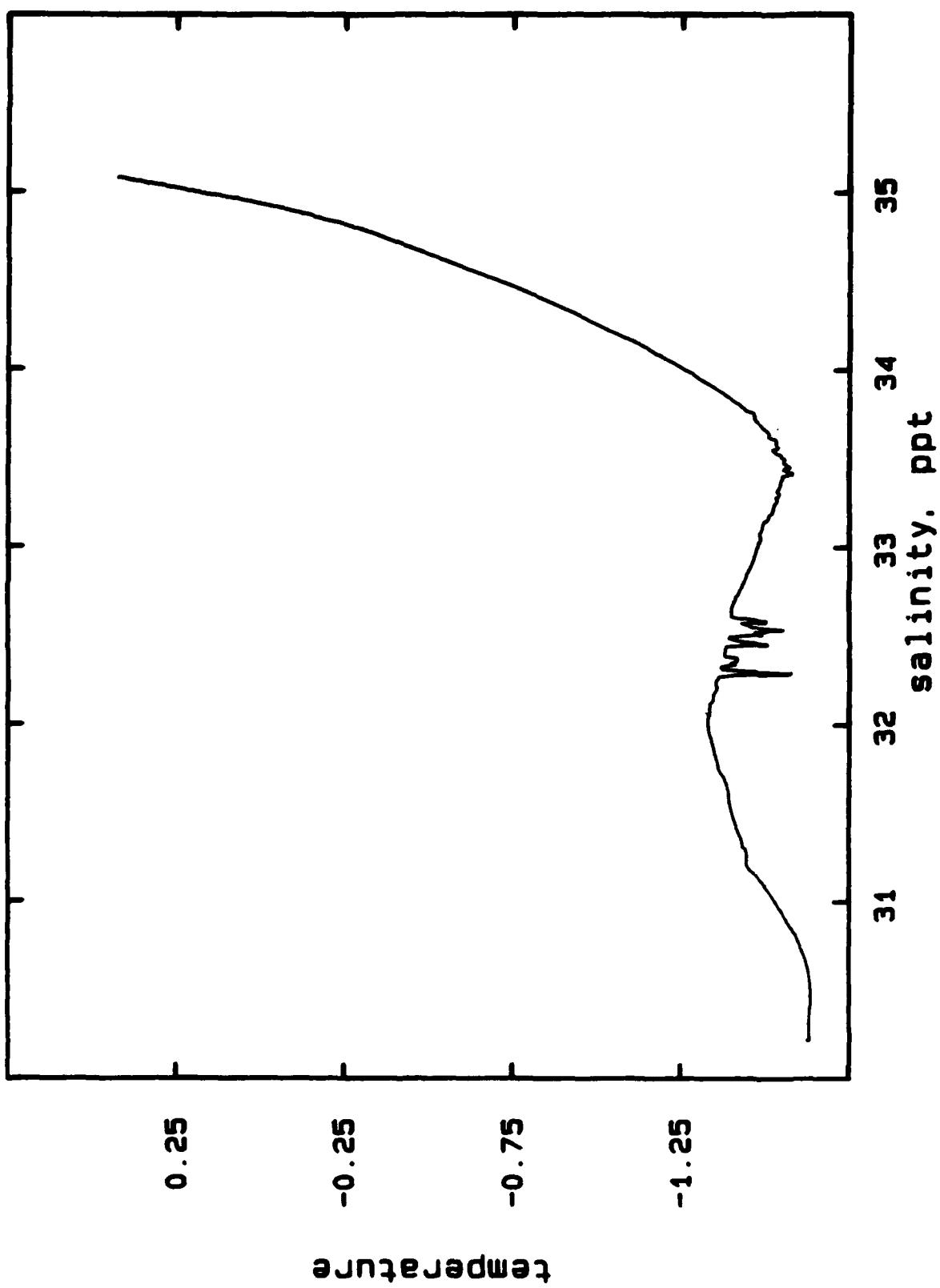
A419A DROP 1



A4198 DROP 1



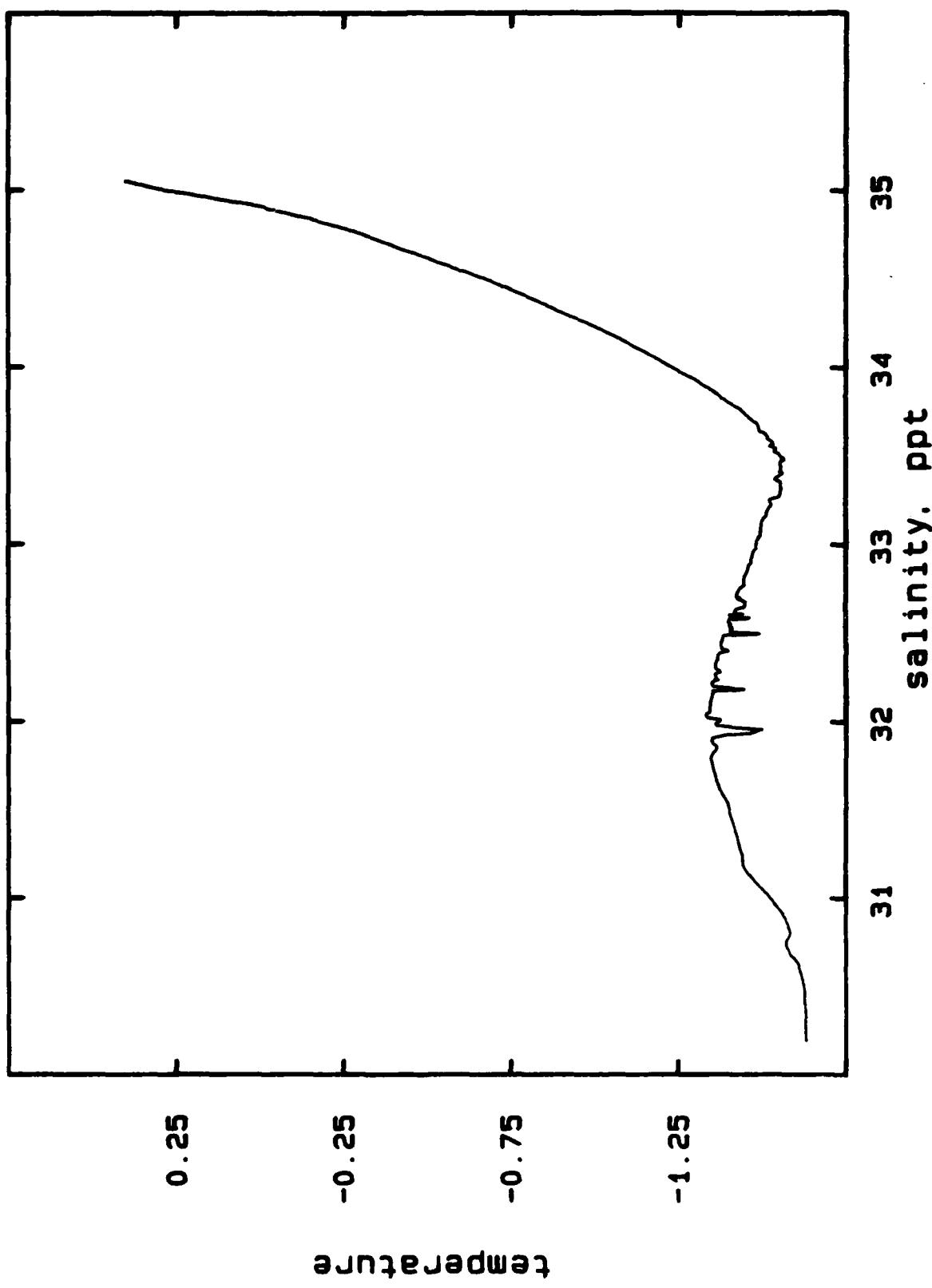
A419C DROP 1



1000  
900  
800  
700  
600  
500  
400  
300  
200  
100  
0

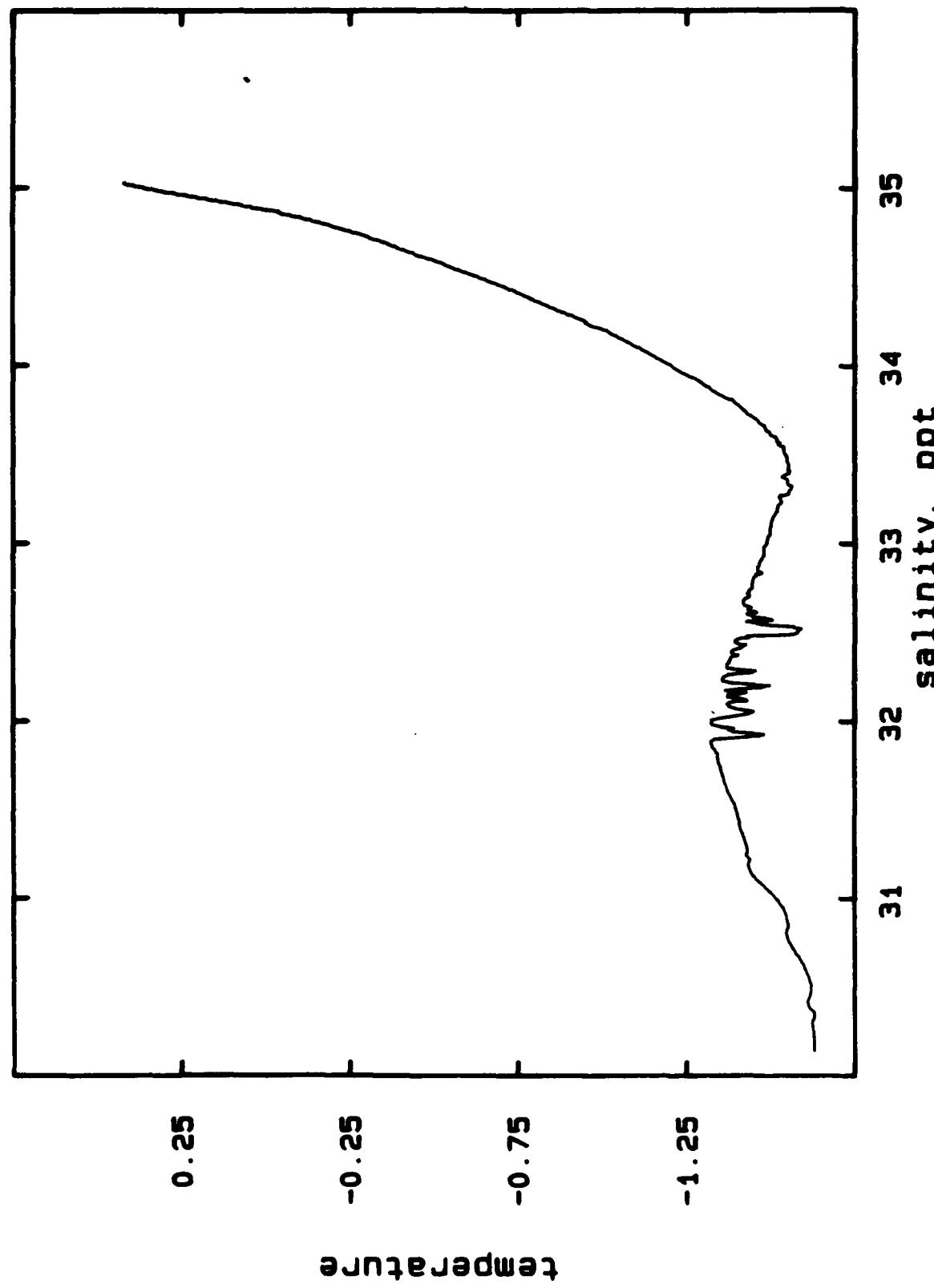
100

A4190 DROP 1

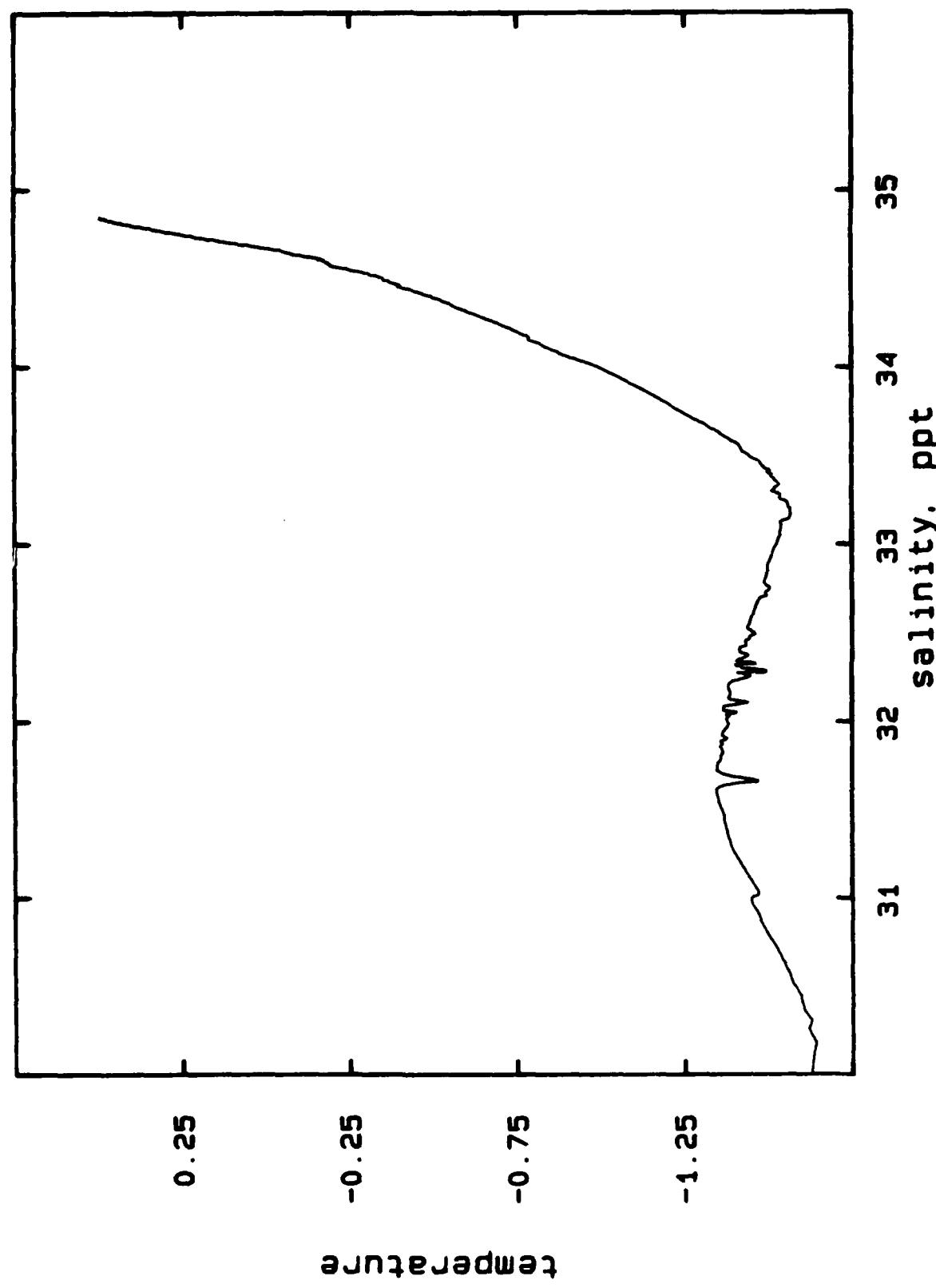


101

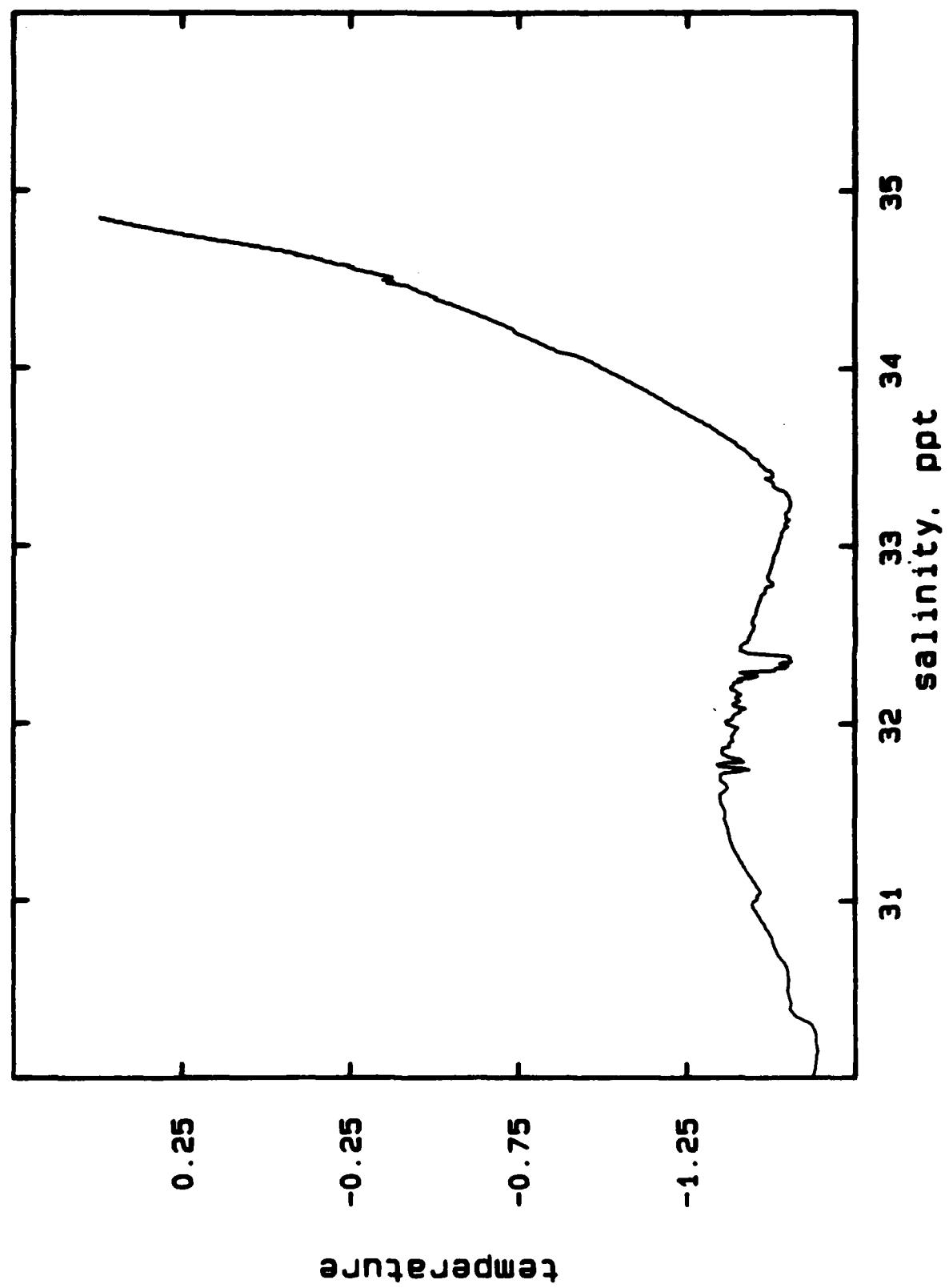
A419E DROP 1



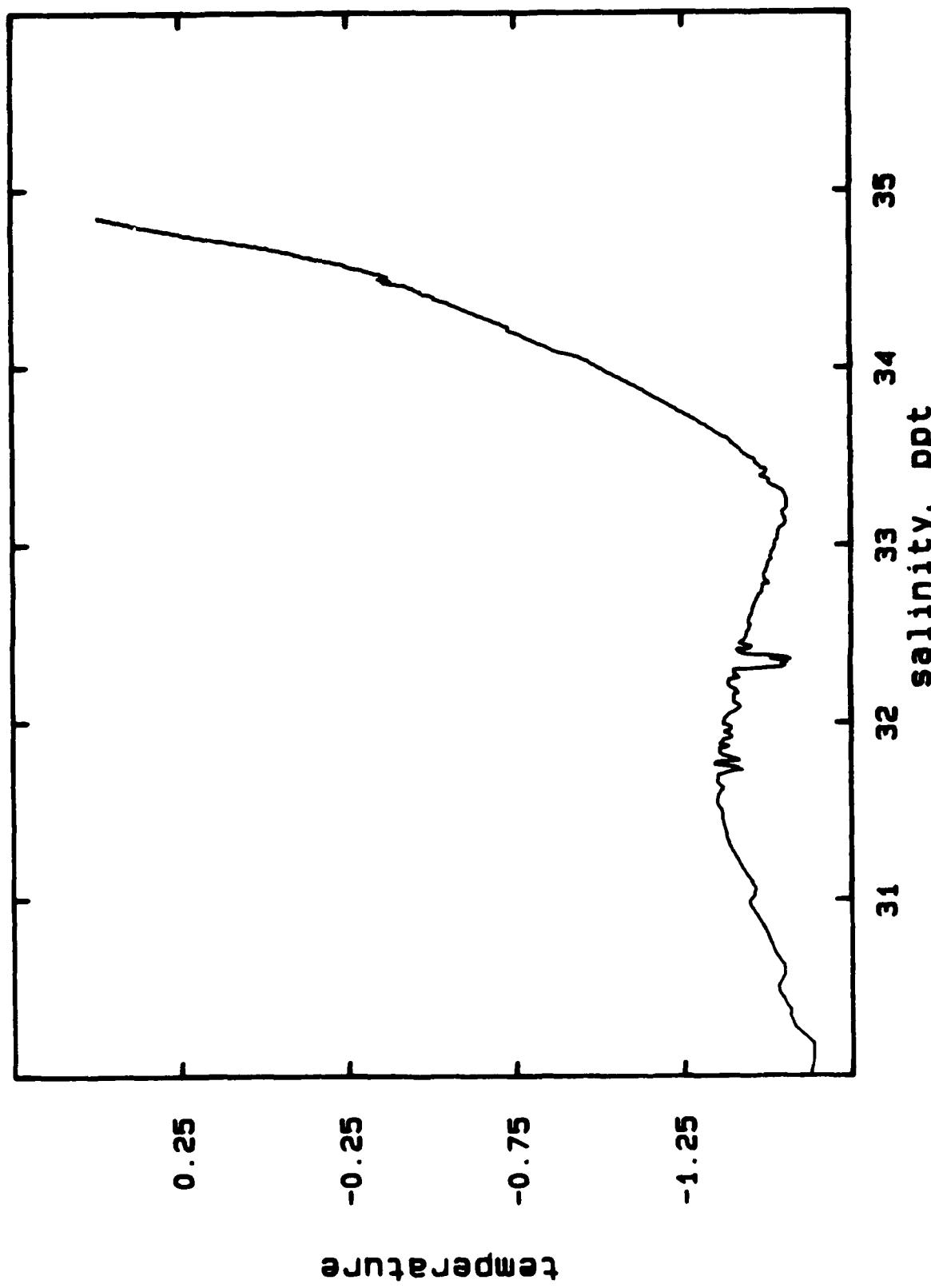
A421A DROP 3



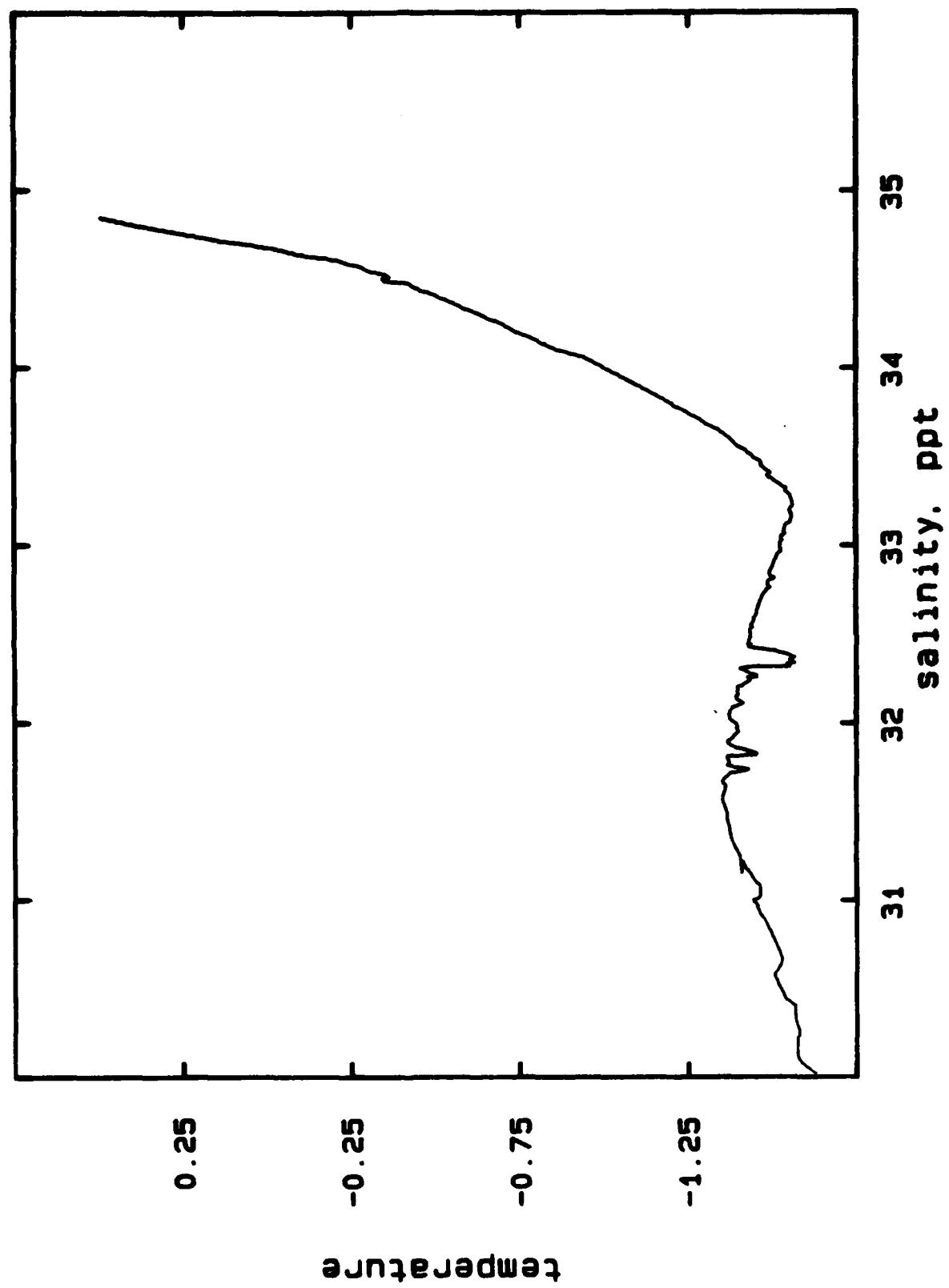
A421B DROP 9



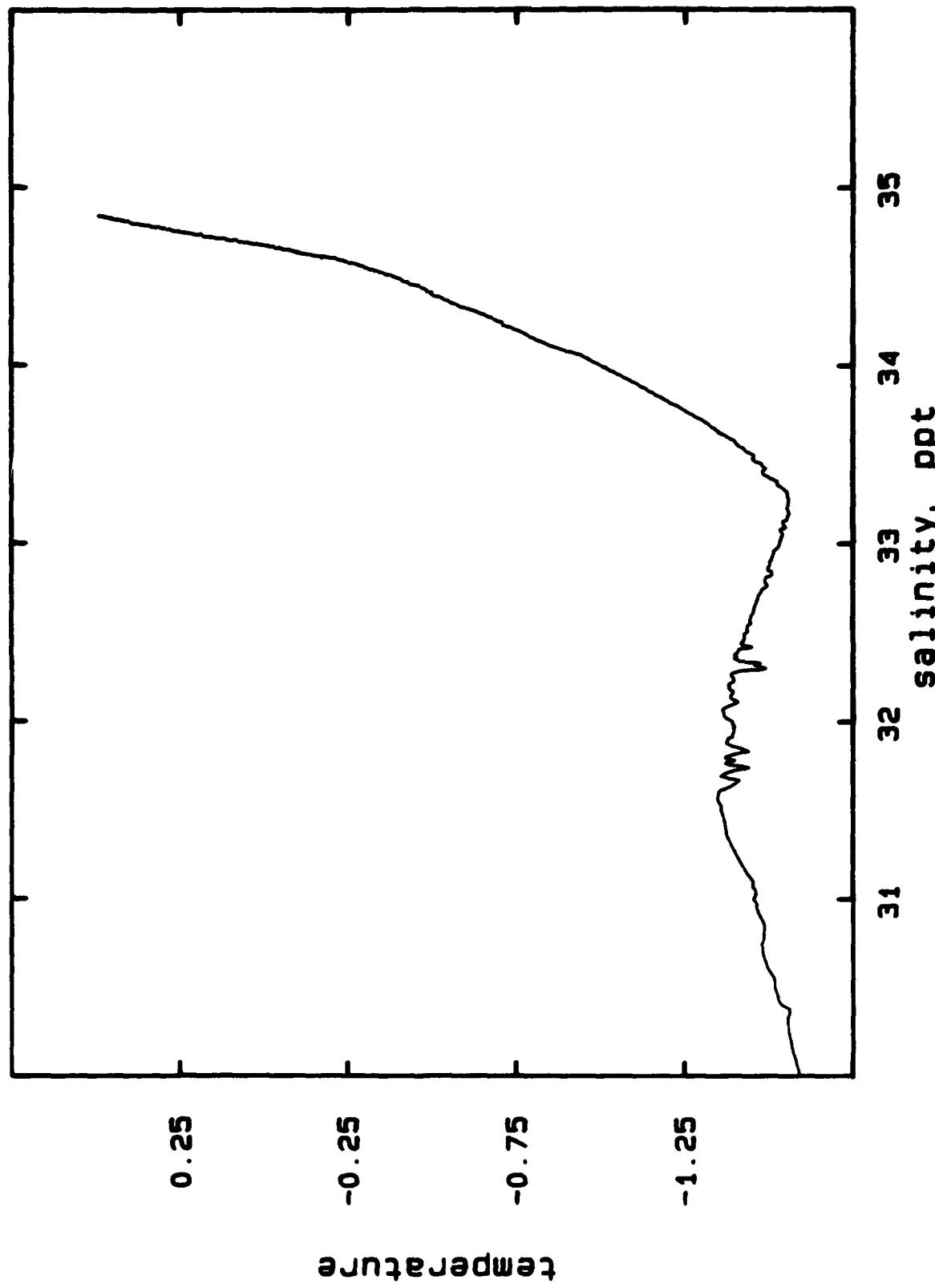
A421C DROP 1



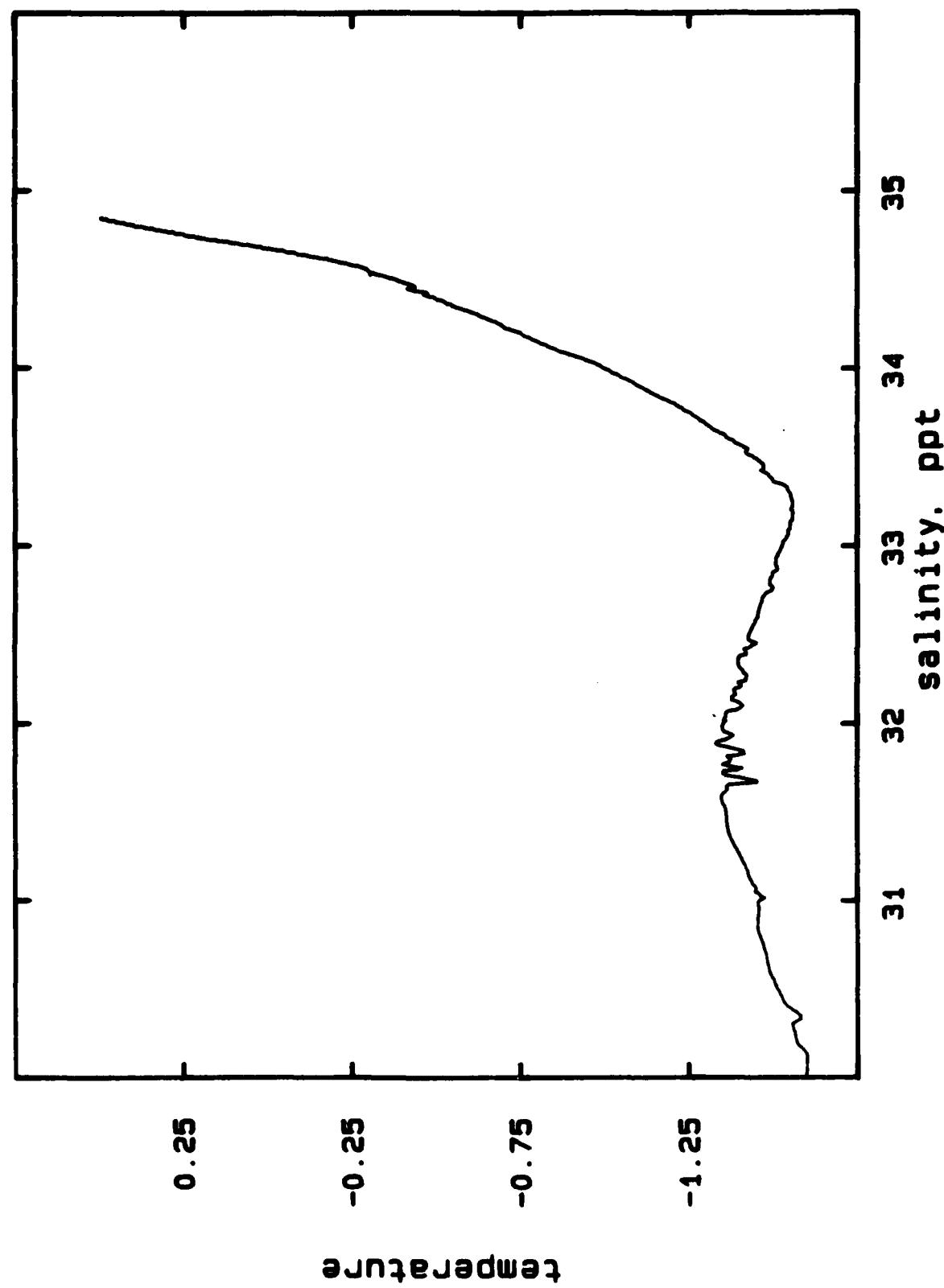
A4210 DROP 1



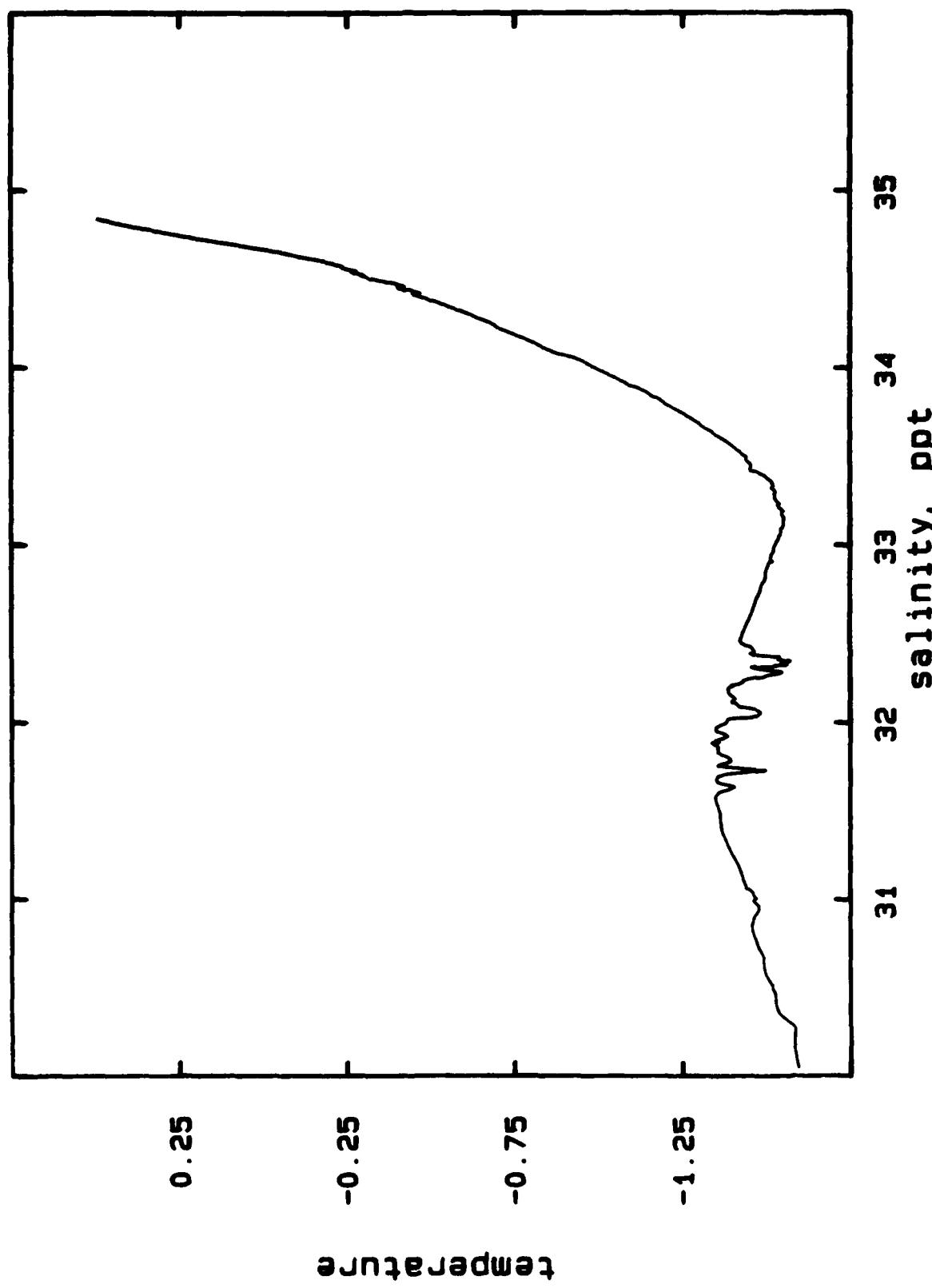
A422A DROP 1



A4228 DROP 1

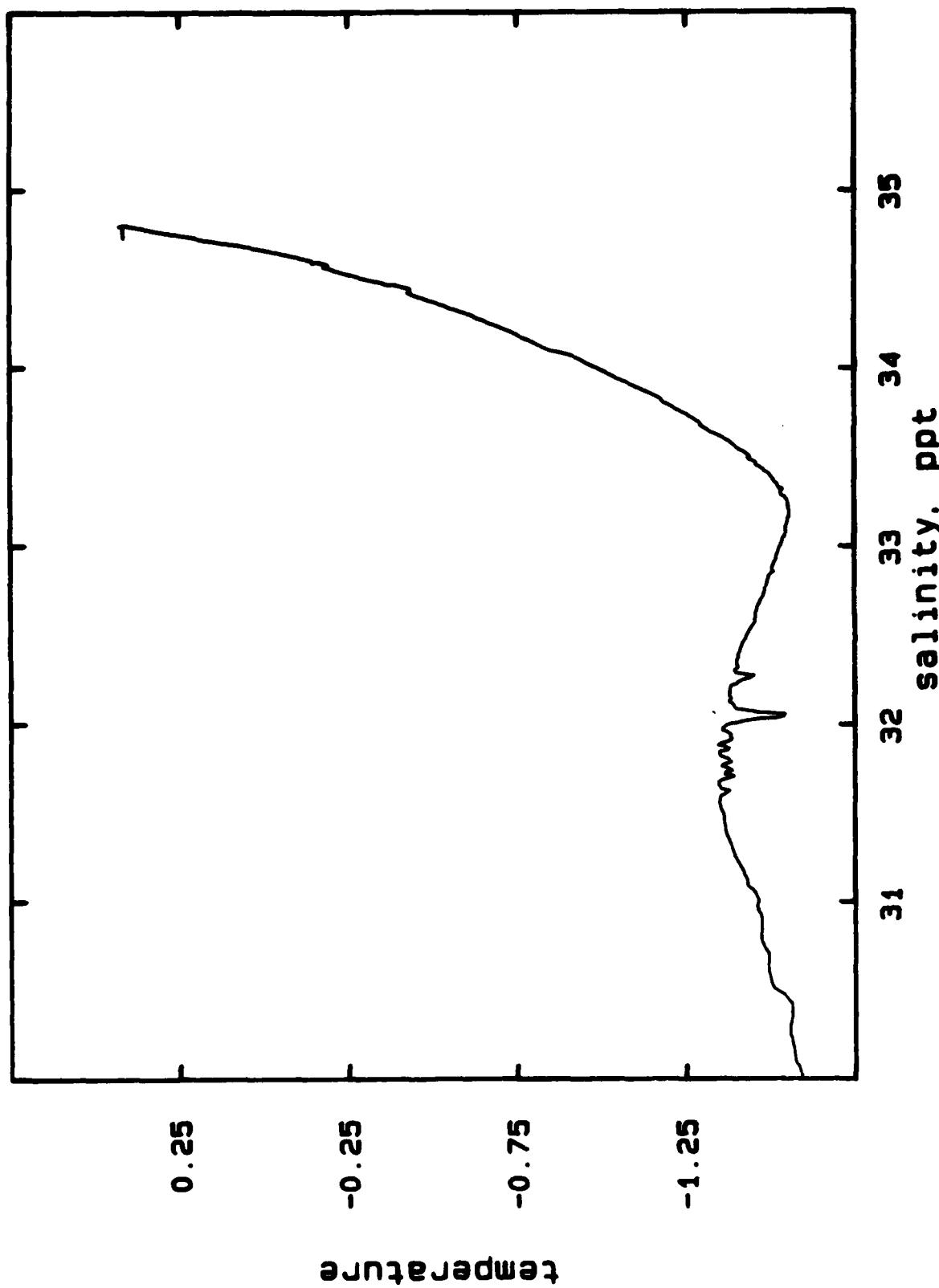


A422C DROP 1

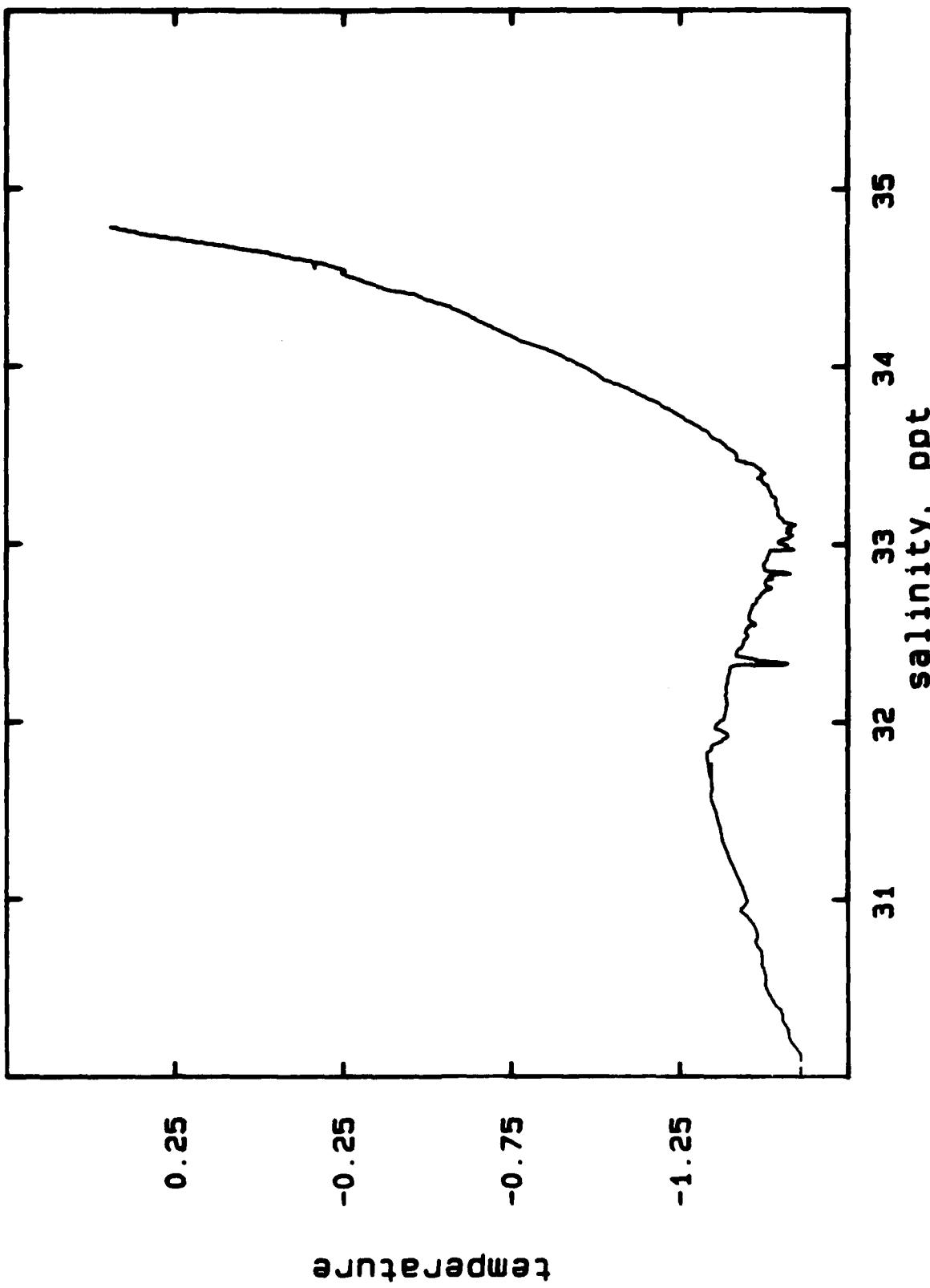


109

A4220 DROP 1

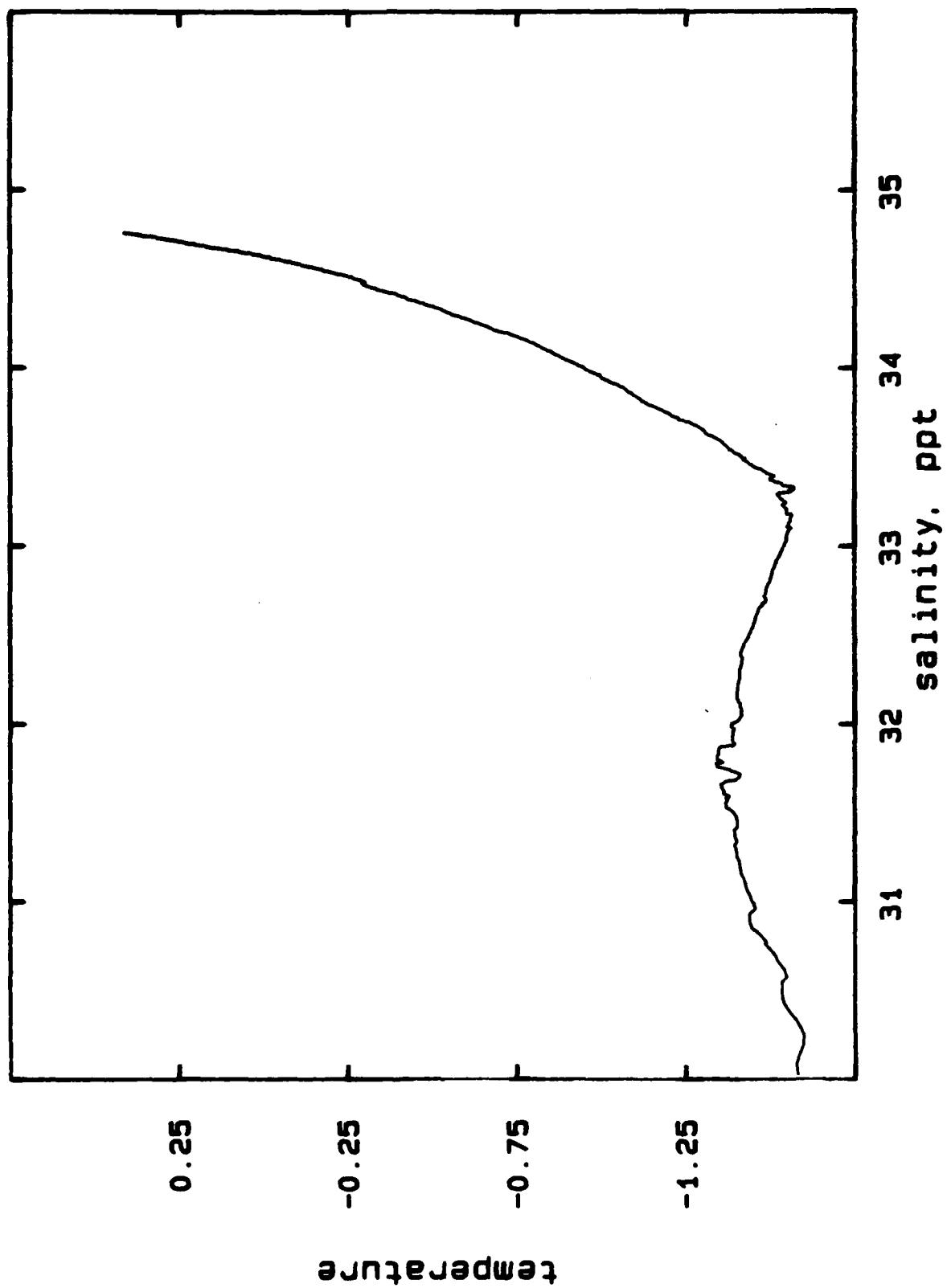


A422J DROP 4

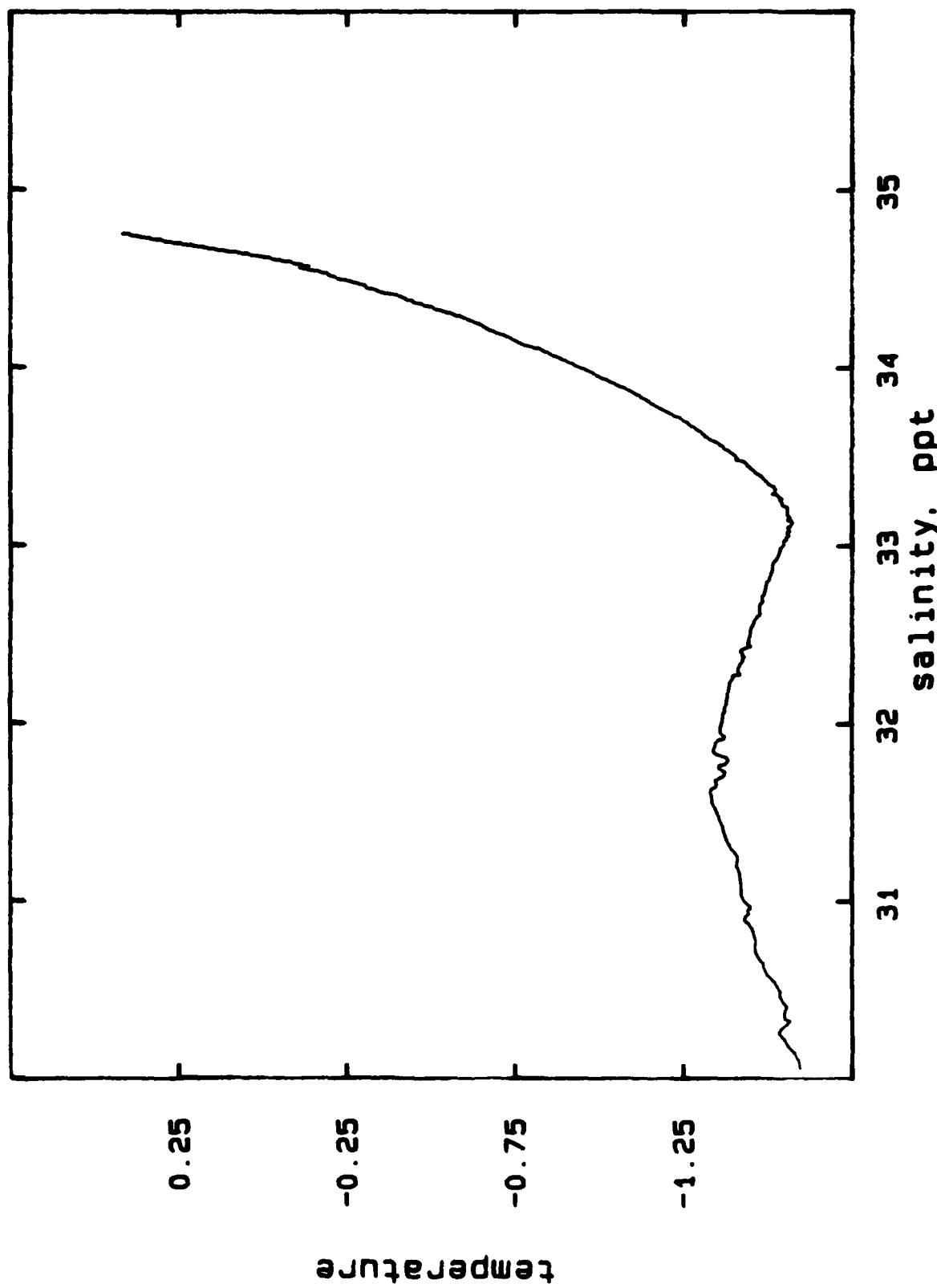


111

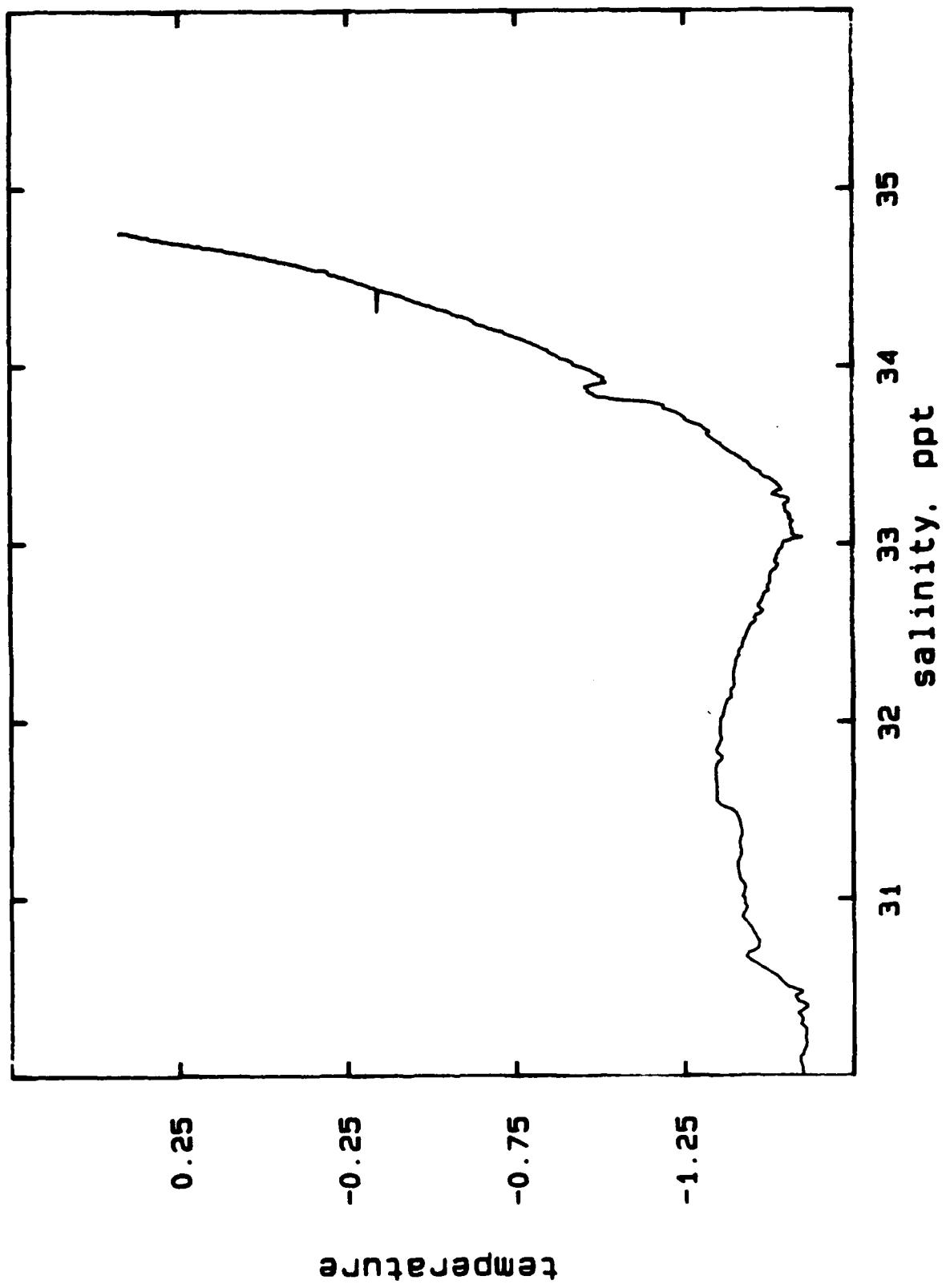
A423A DROP 2



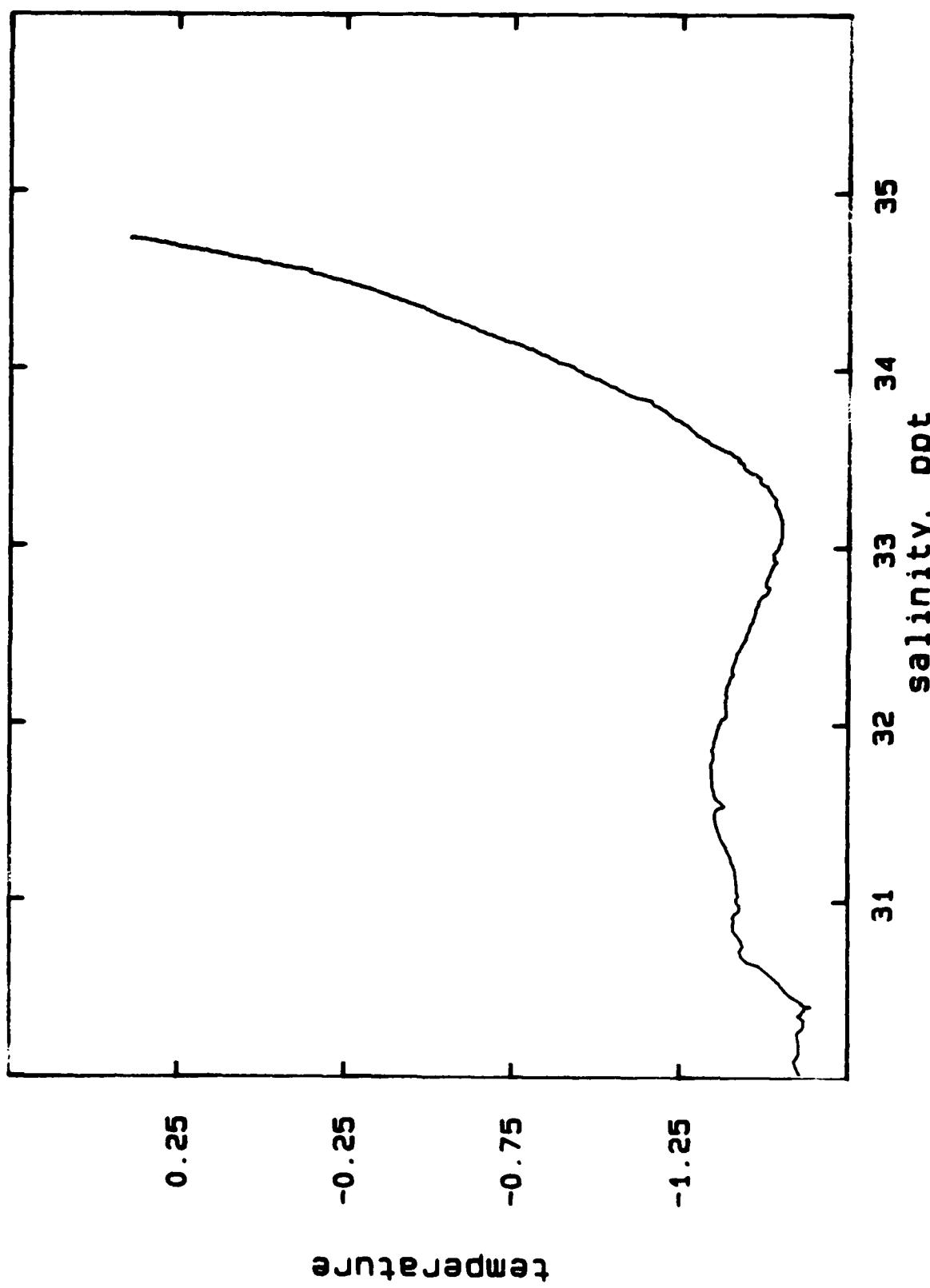
A423E DROP 3



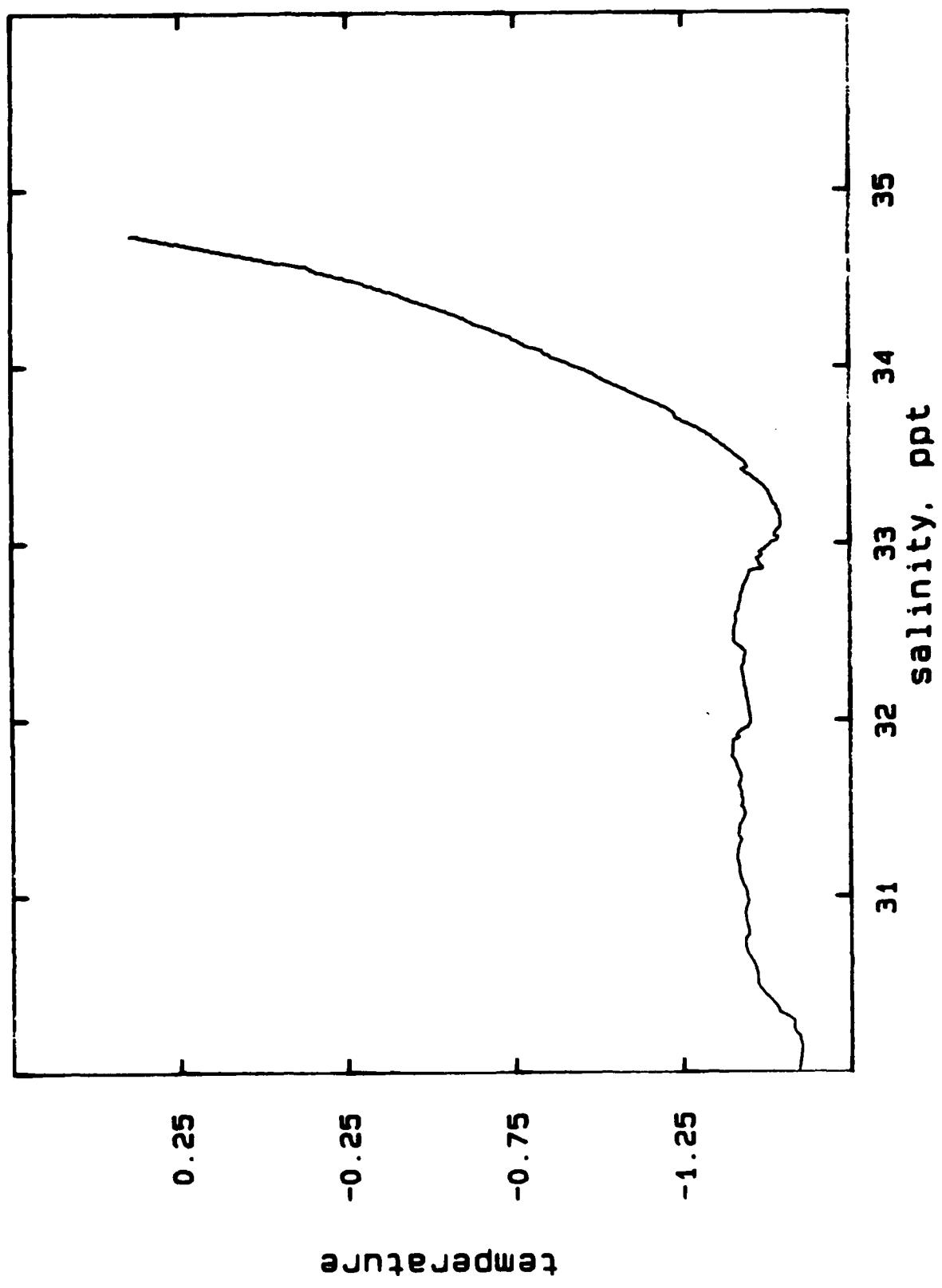
A424A DROP 3



A4246 DROP 1

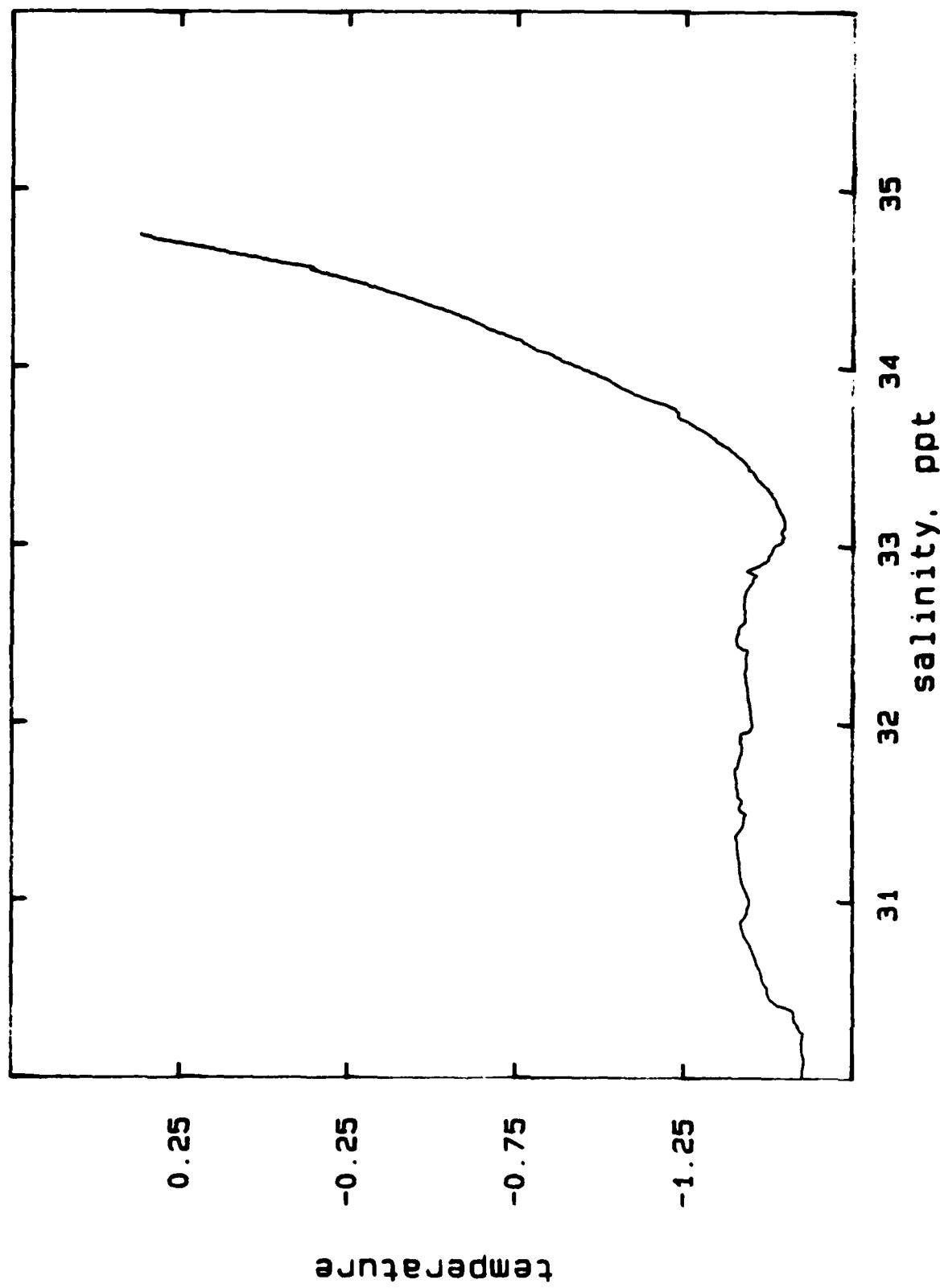


A425A DROP 3

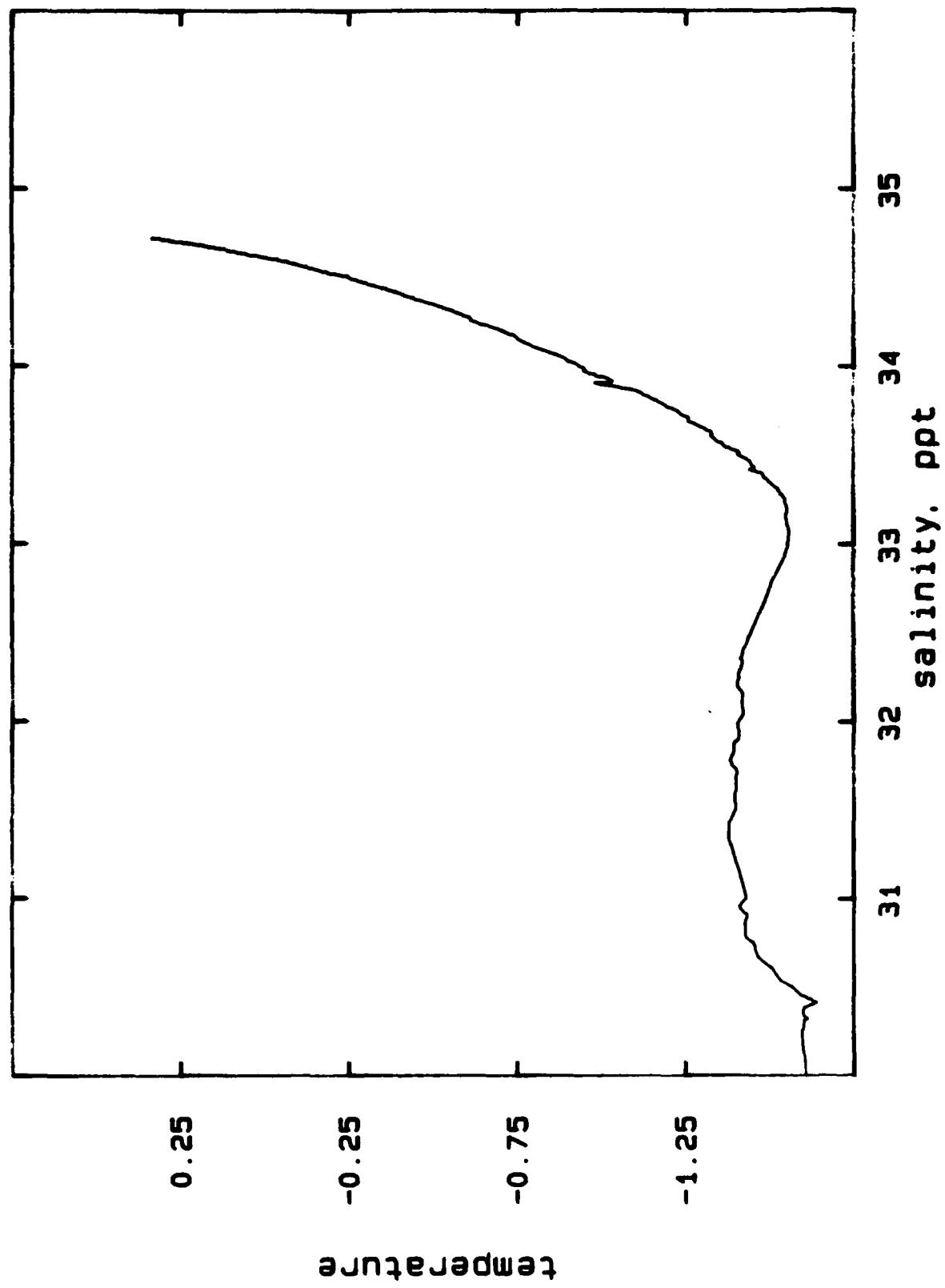


14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

A425B DROP 3

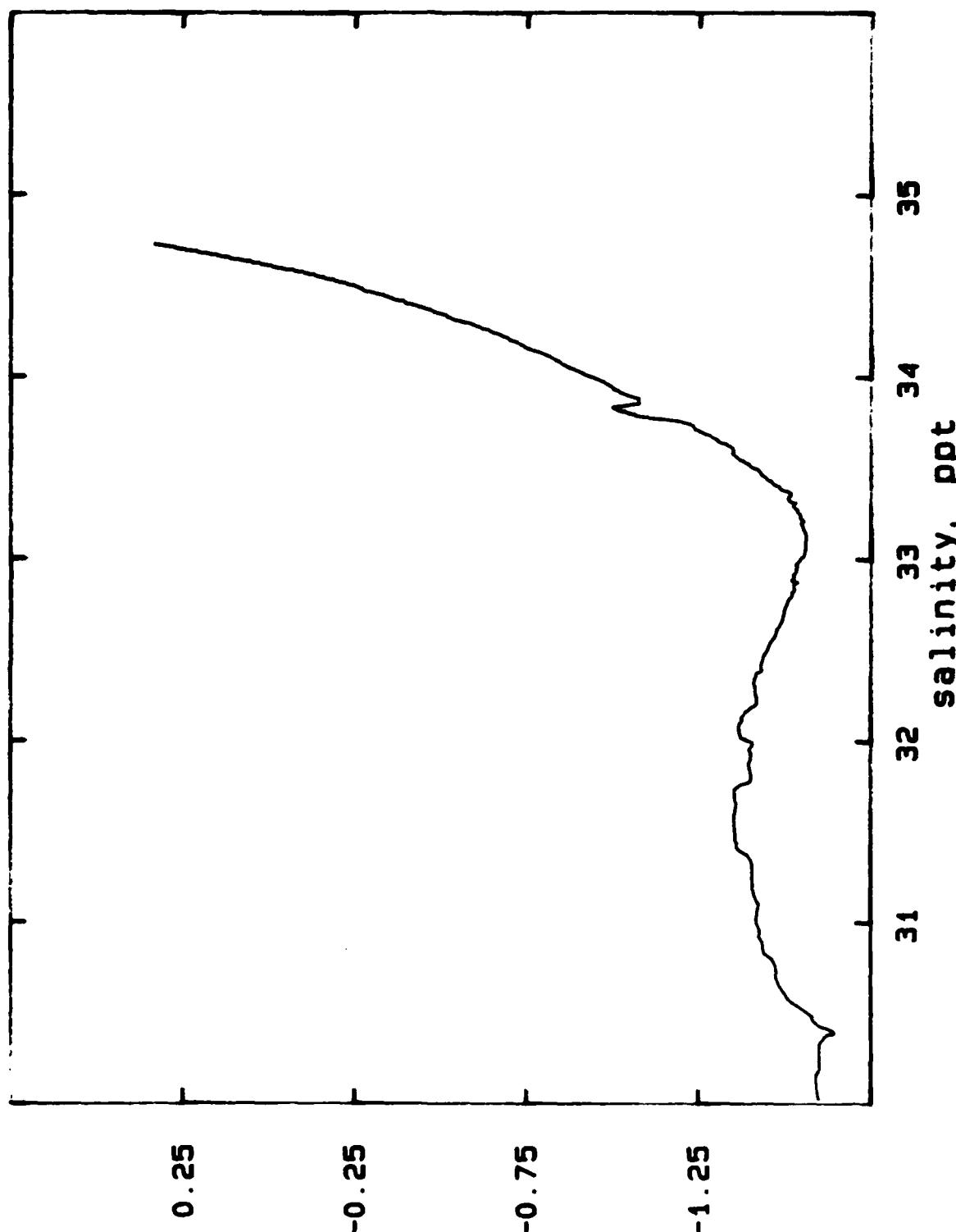


A425C DROP 3

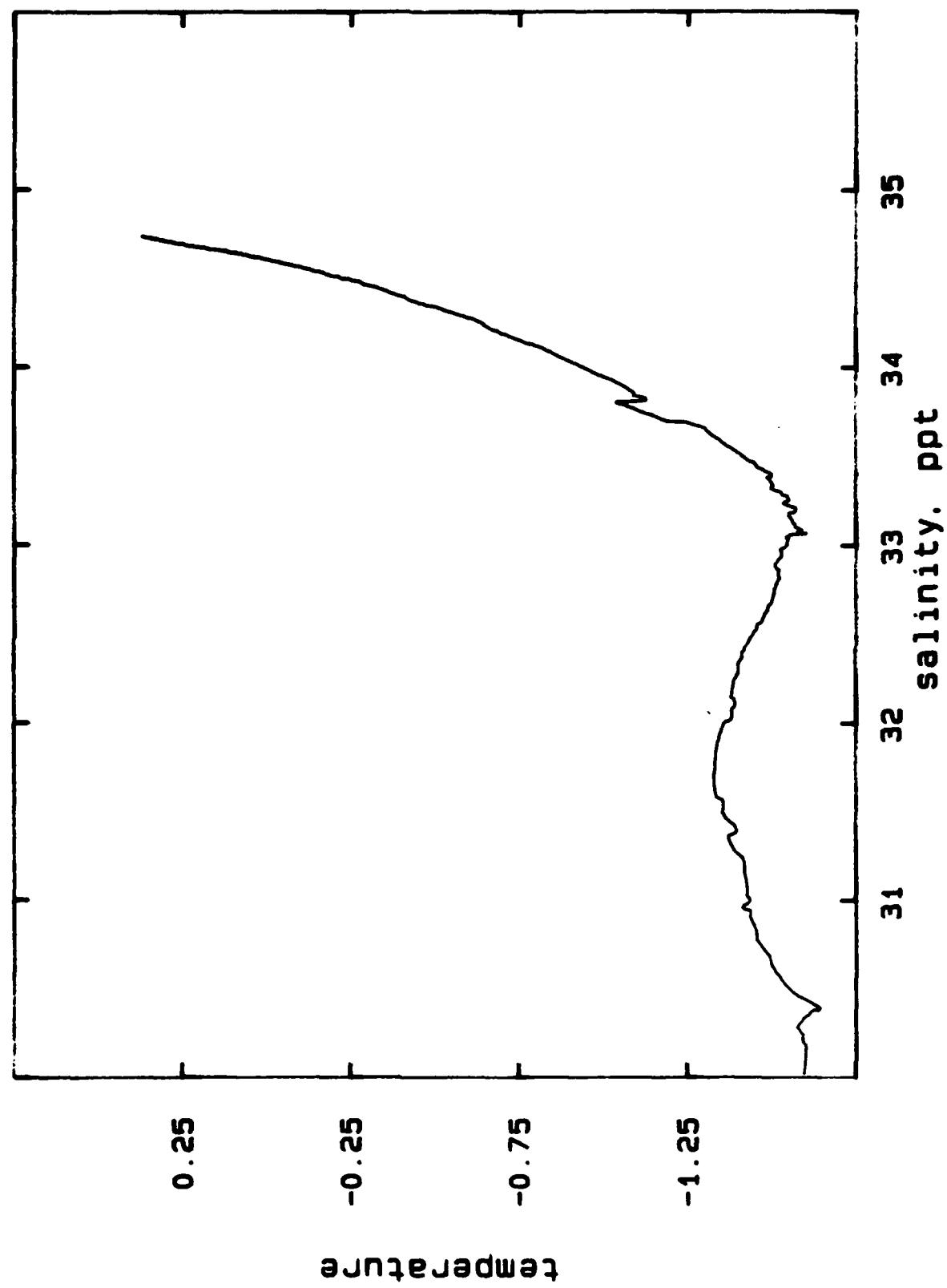


A4250 DROP 3

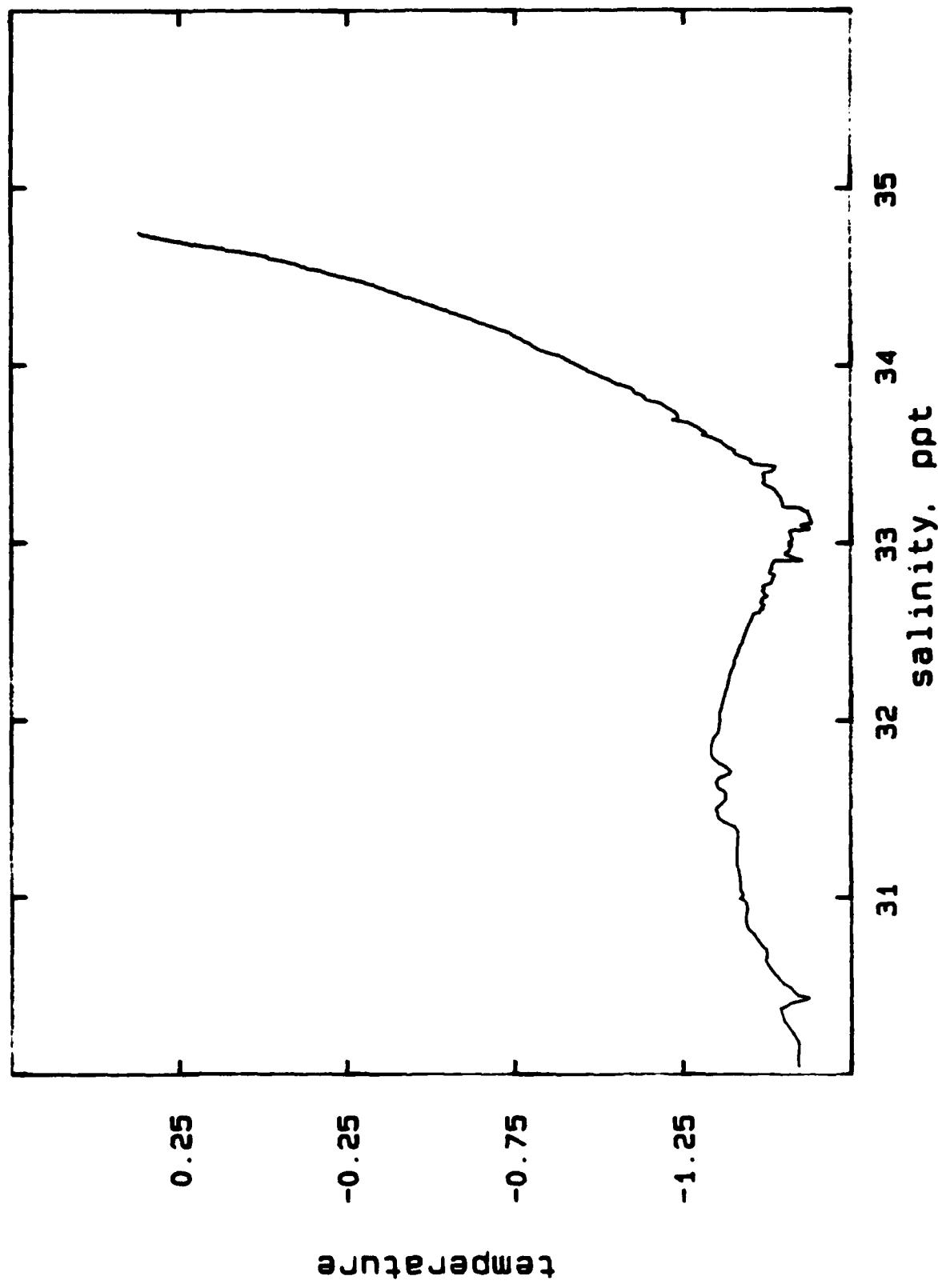
temperature



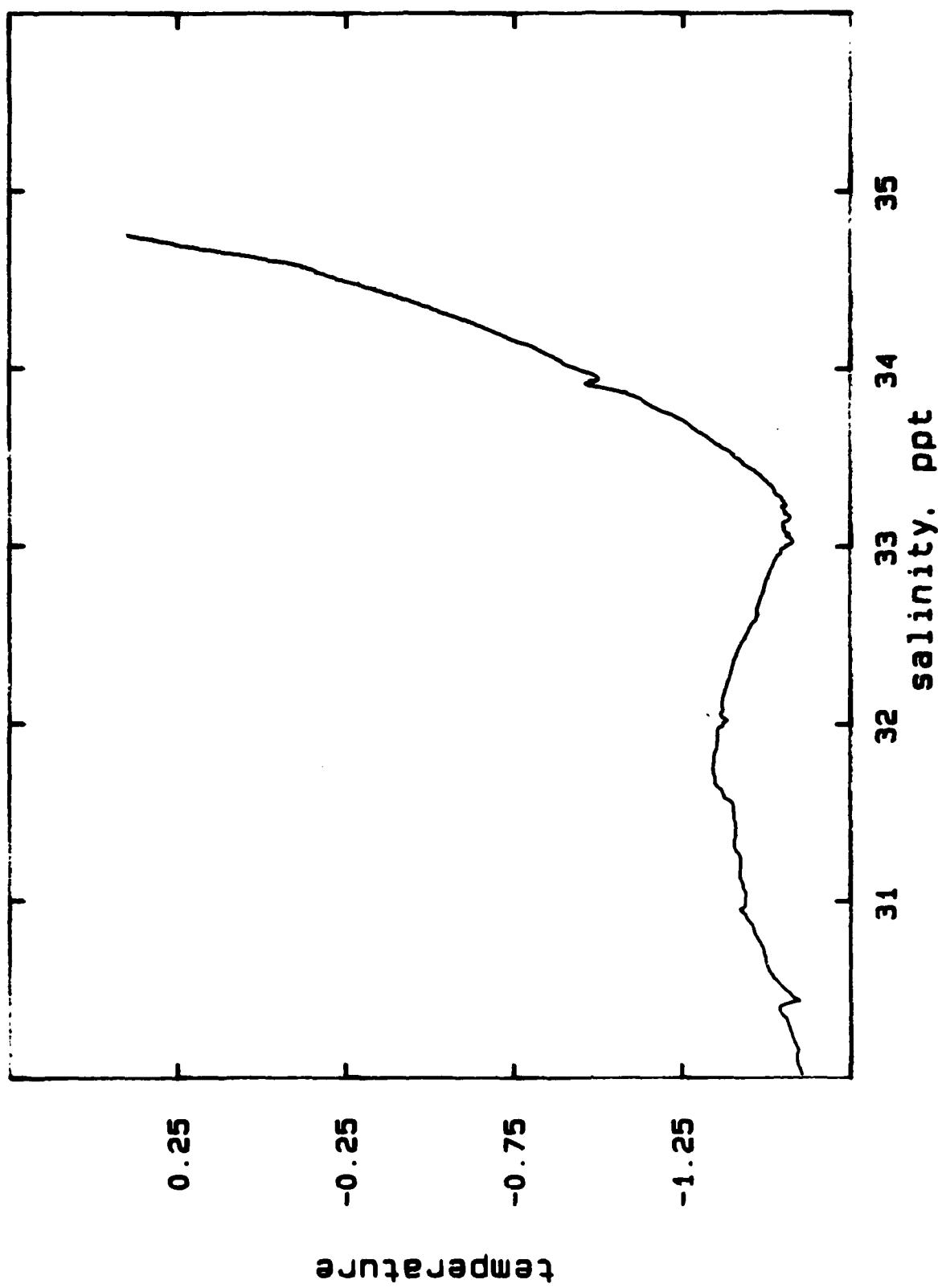
A425E DROP 3



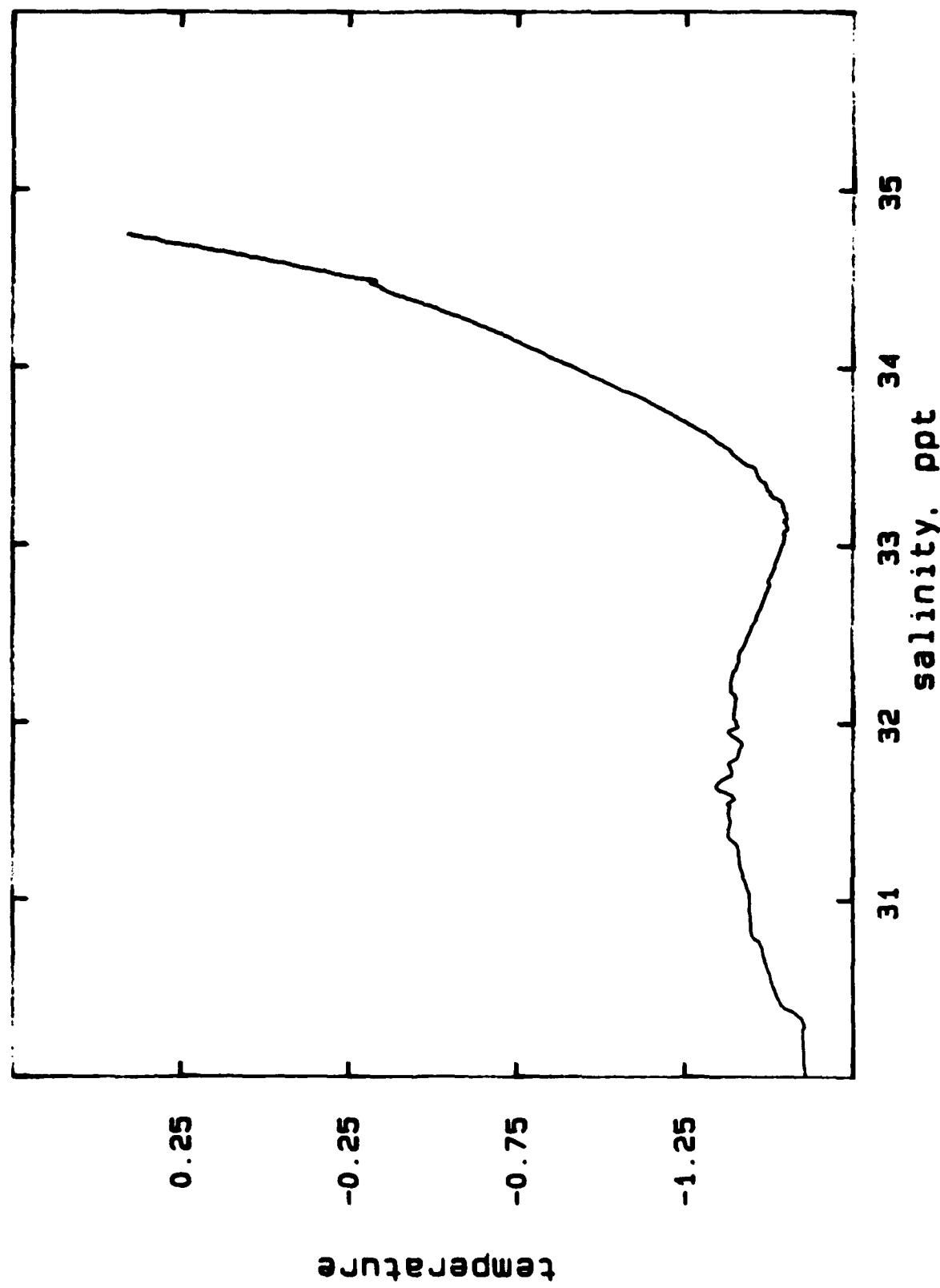
A425F DROP 3



A4256 DROP 3



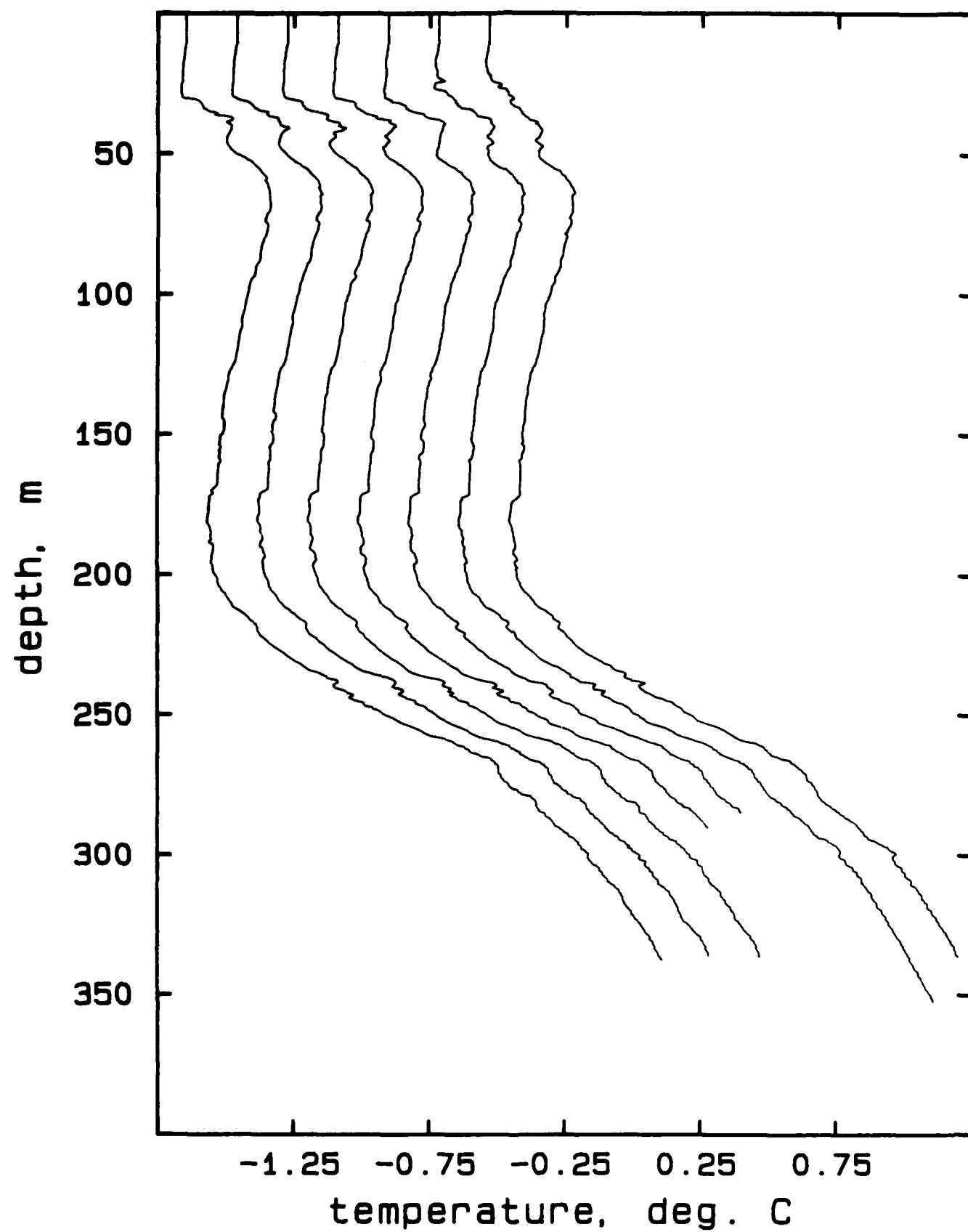
A426A DROP 3



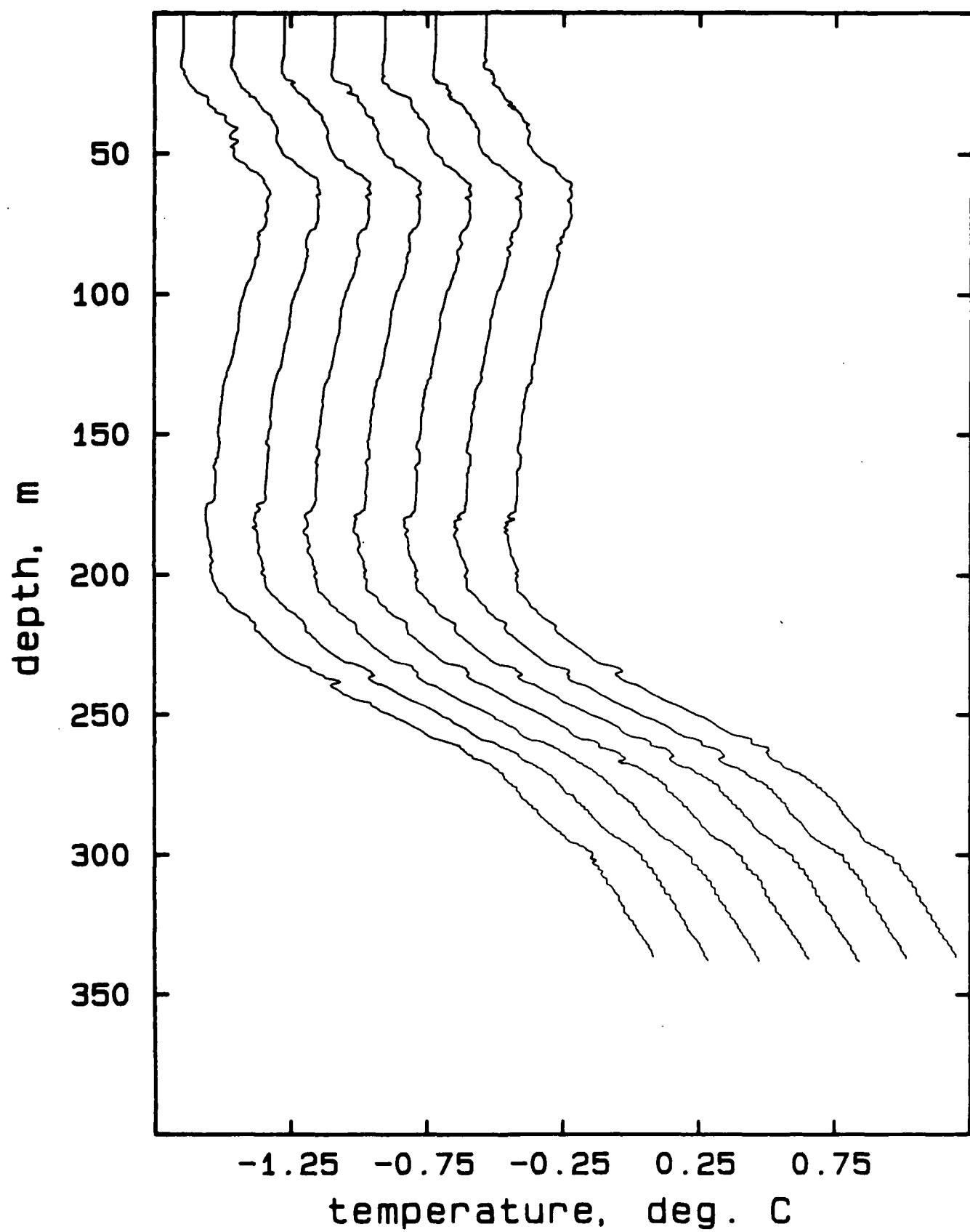
**OBSERVATIONS:**

**C. TEMPERATURE PROFILES**

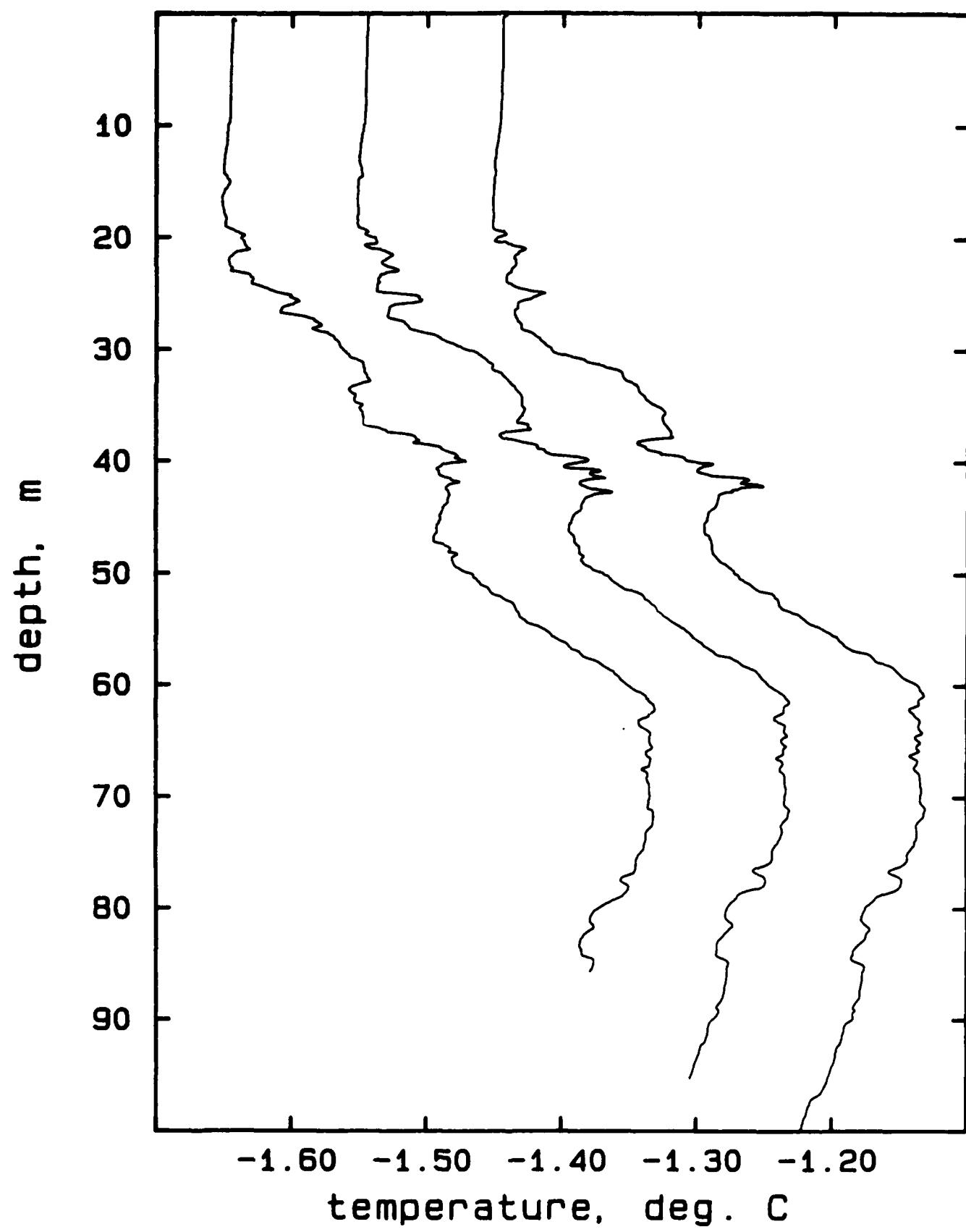
## AR323A, drops 1-7



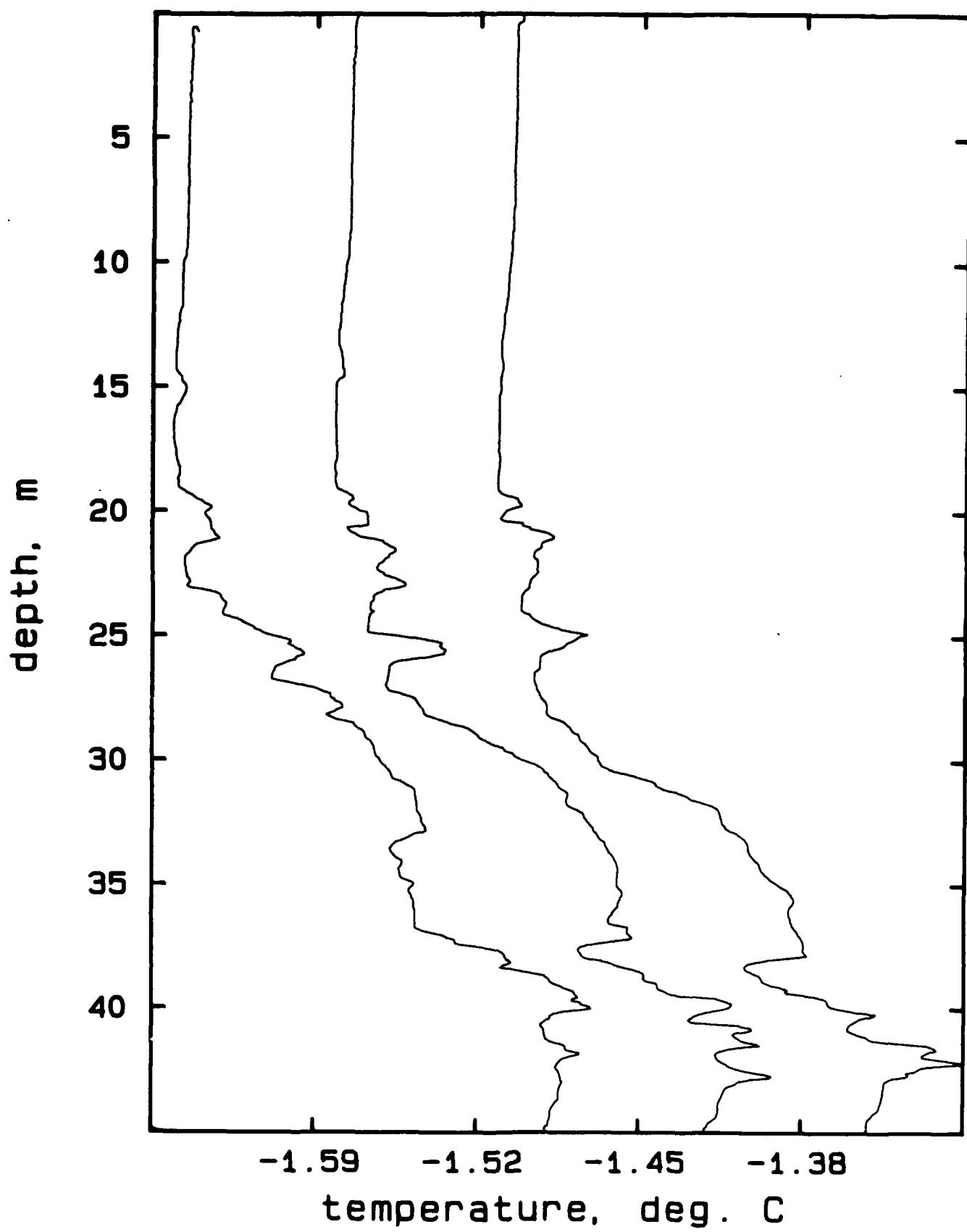
AR323B, drops 1-7



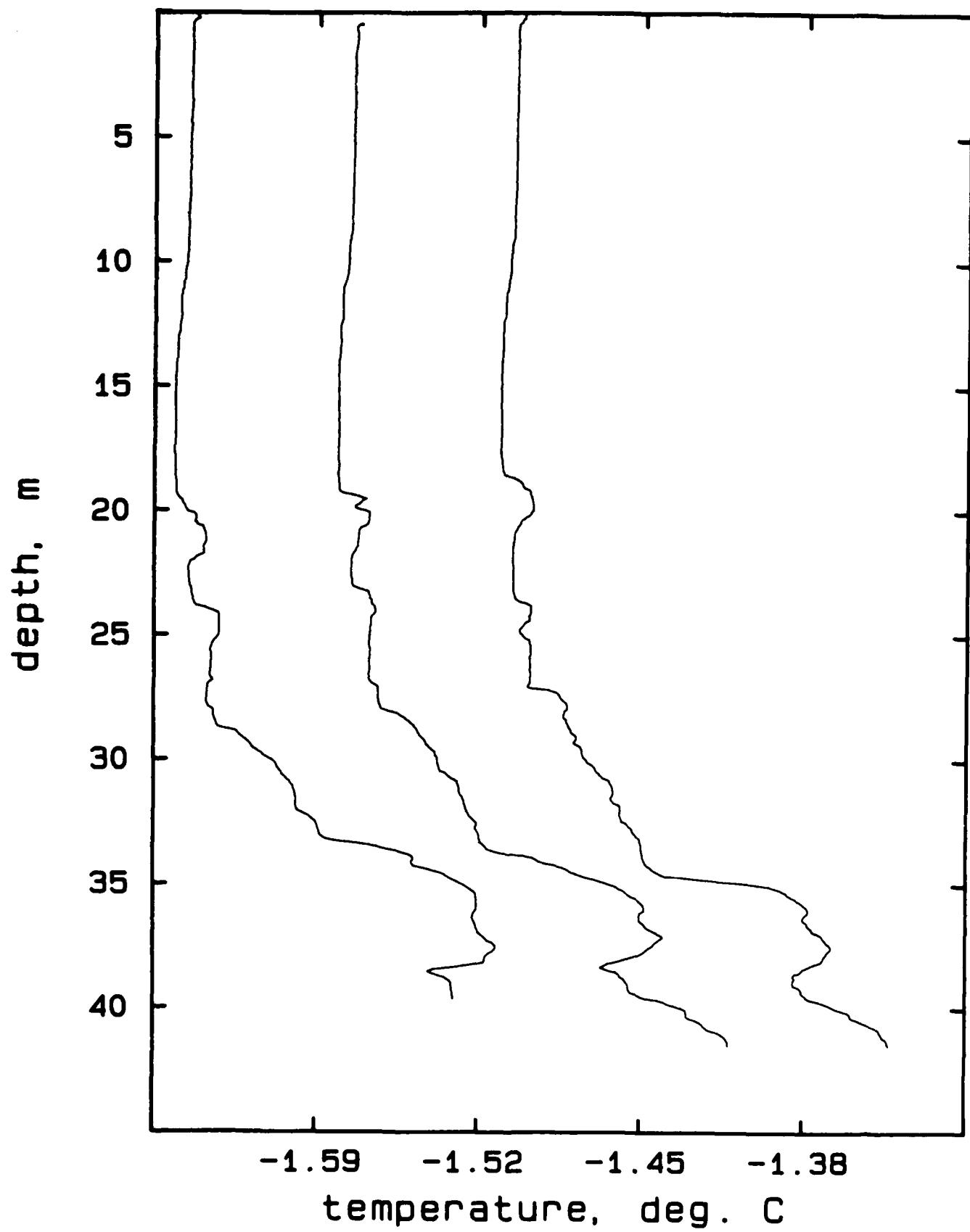
## AR323C, drops 1-3



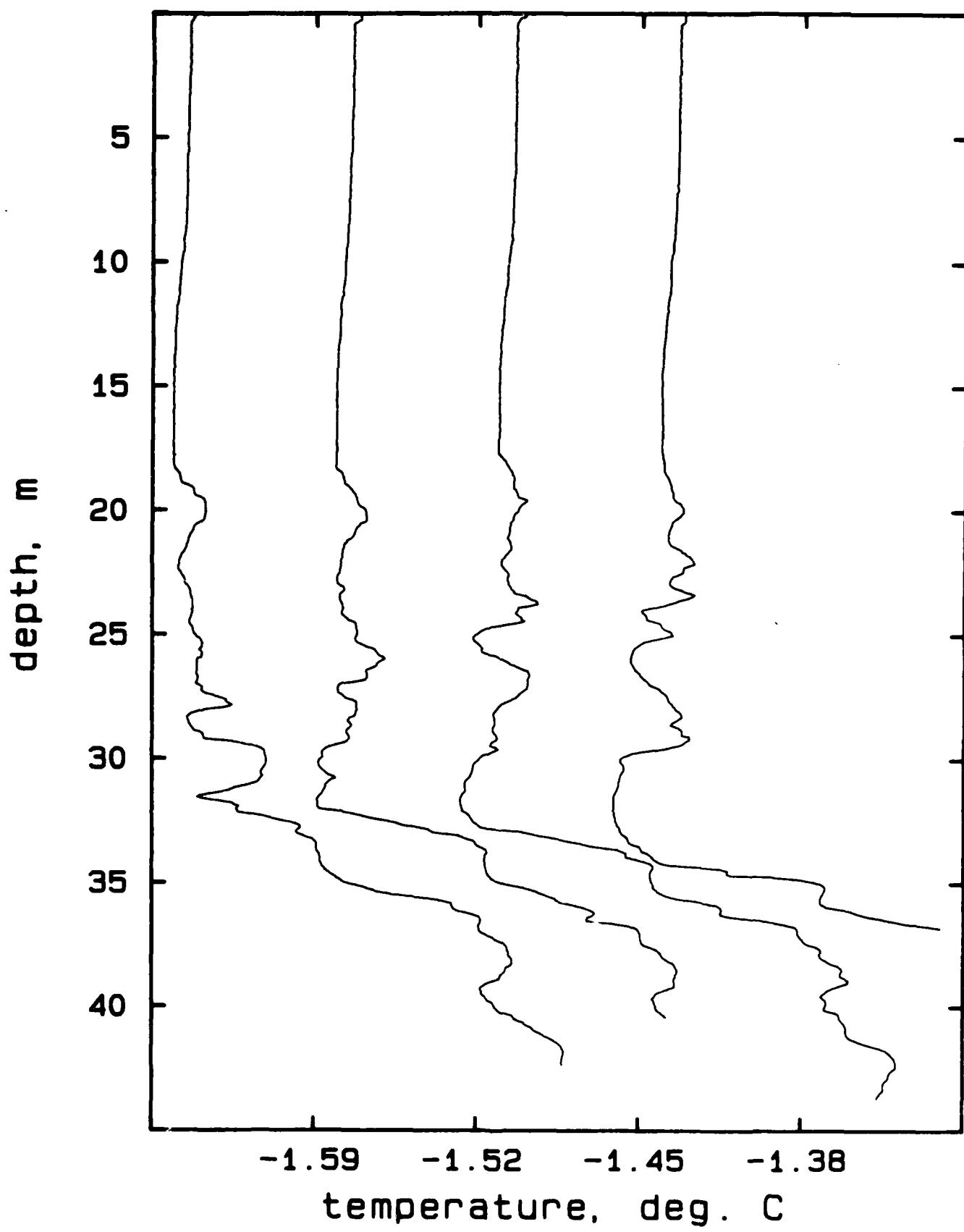
## AR323C, drops 1-3



## AR323C, drops 4-6

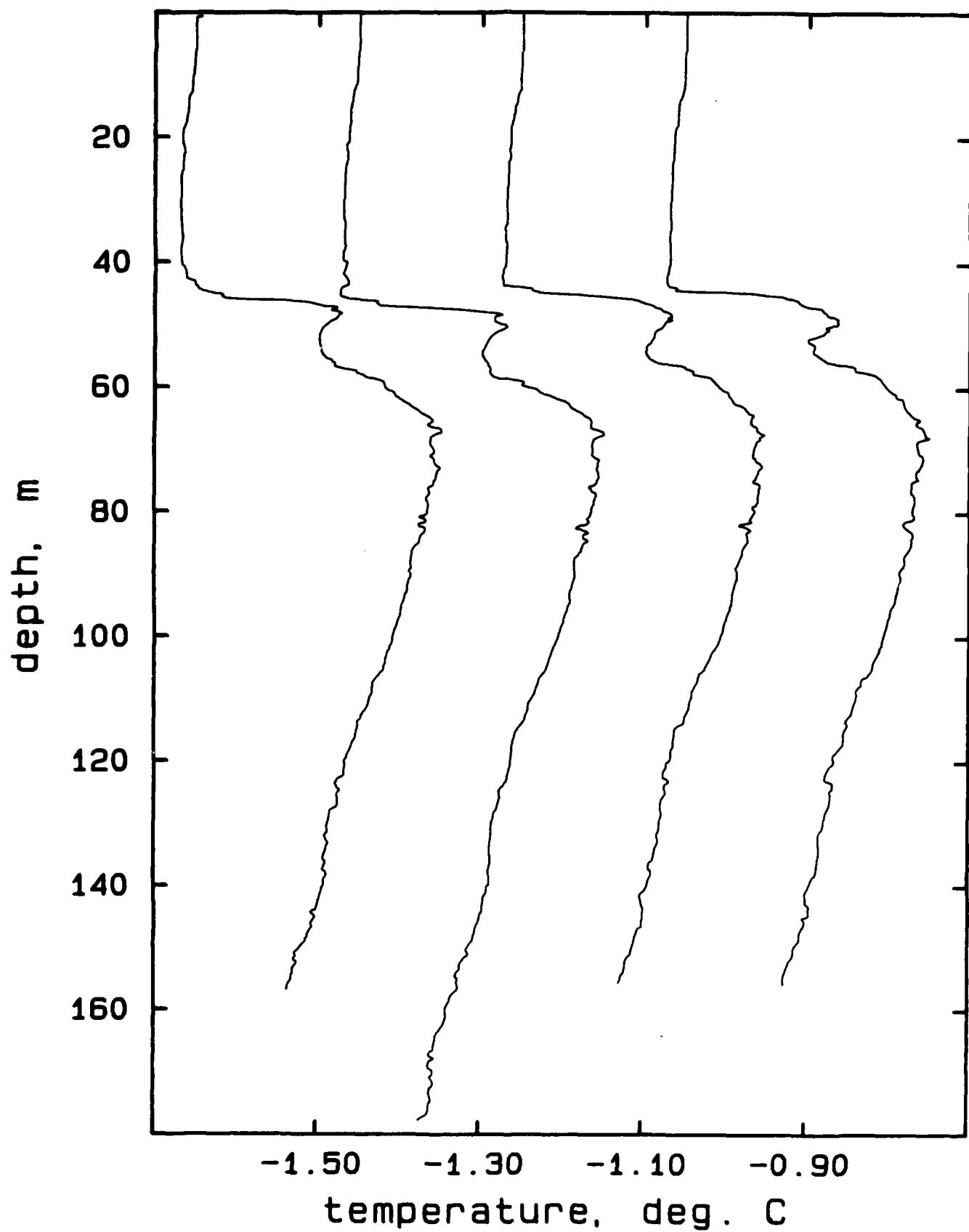


## AR323C, drops 7-10

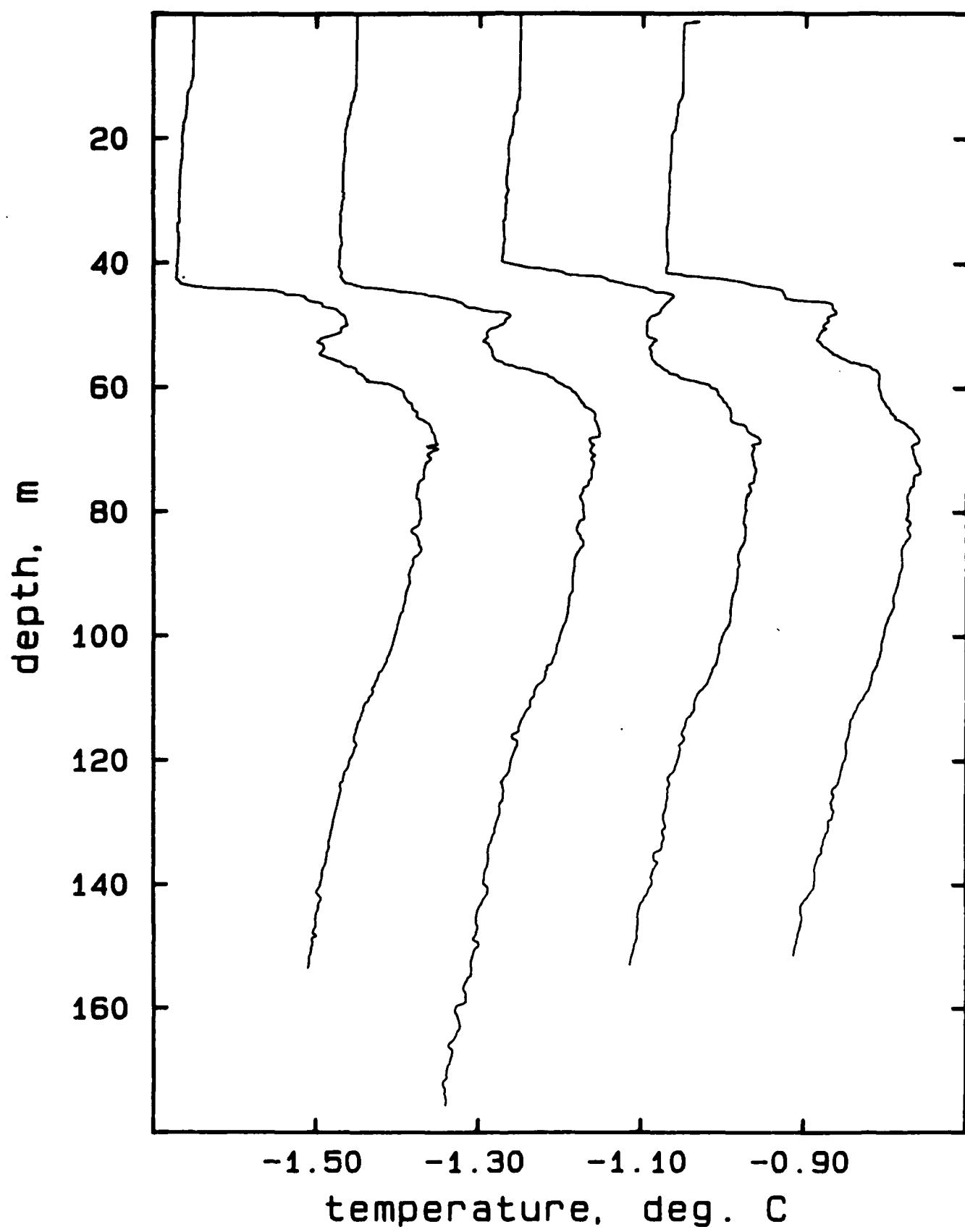


130

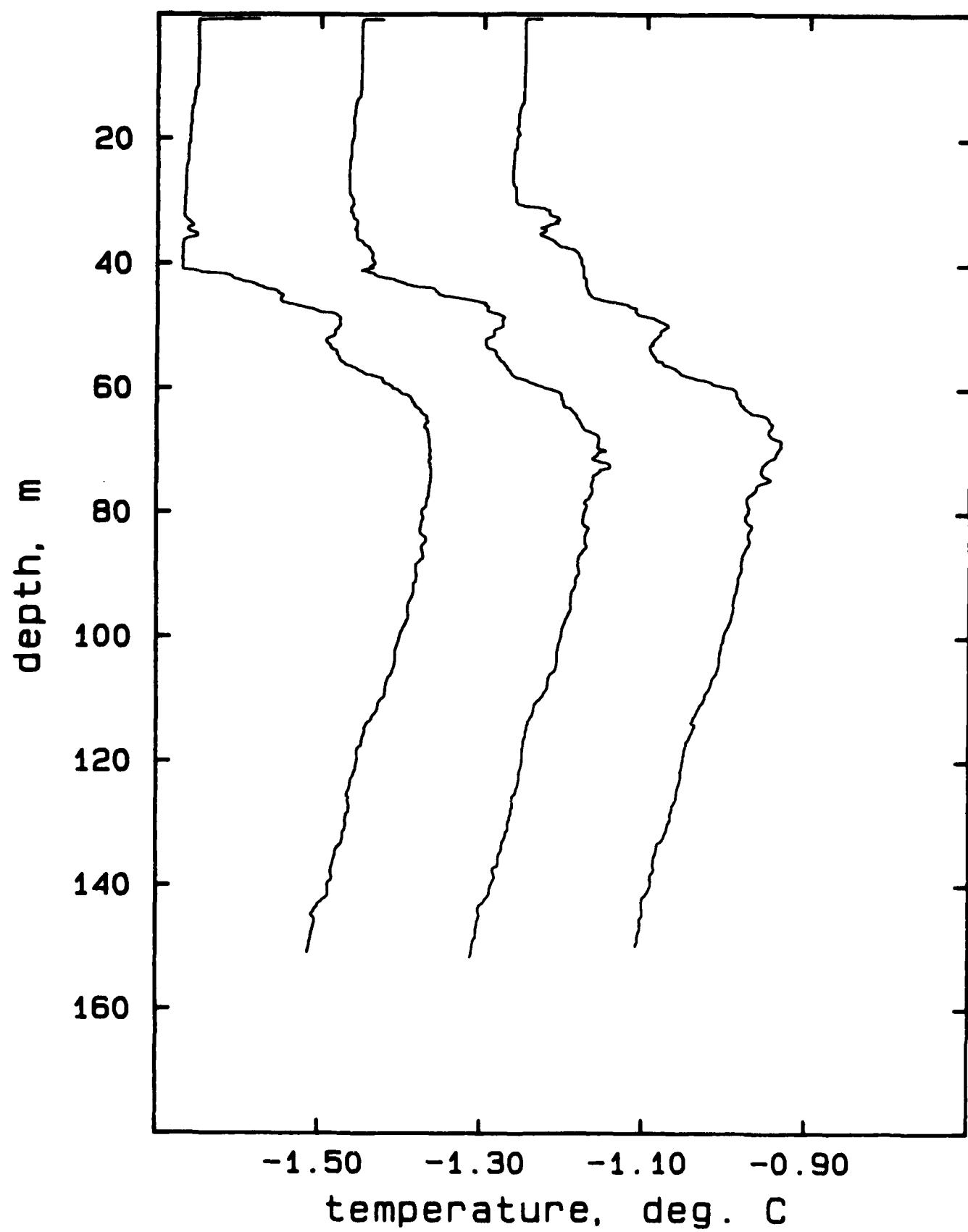
## AR324A, drops 1-4



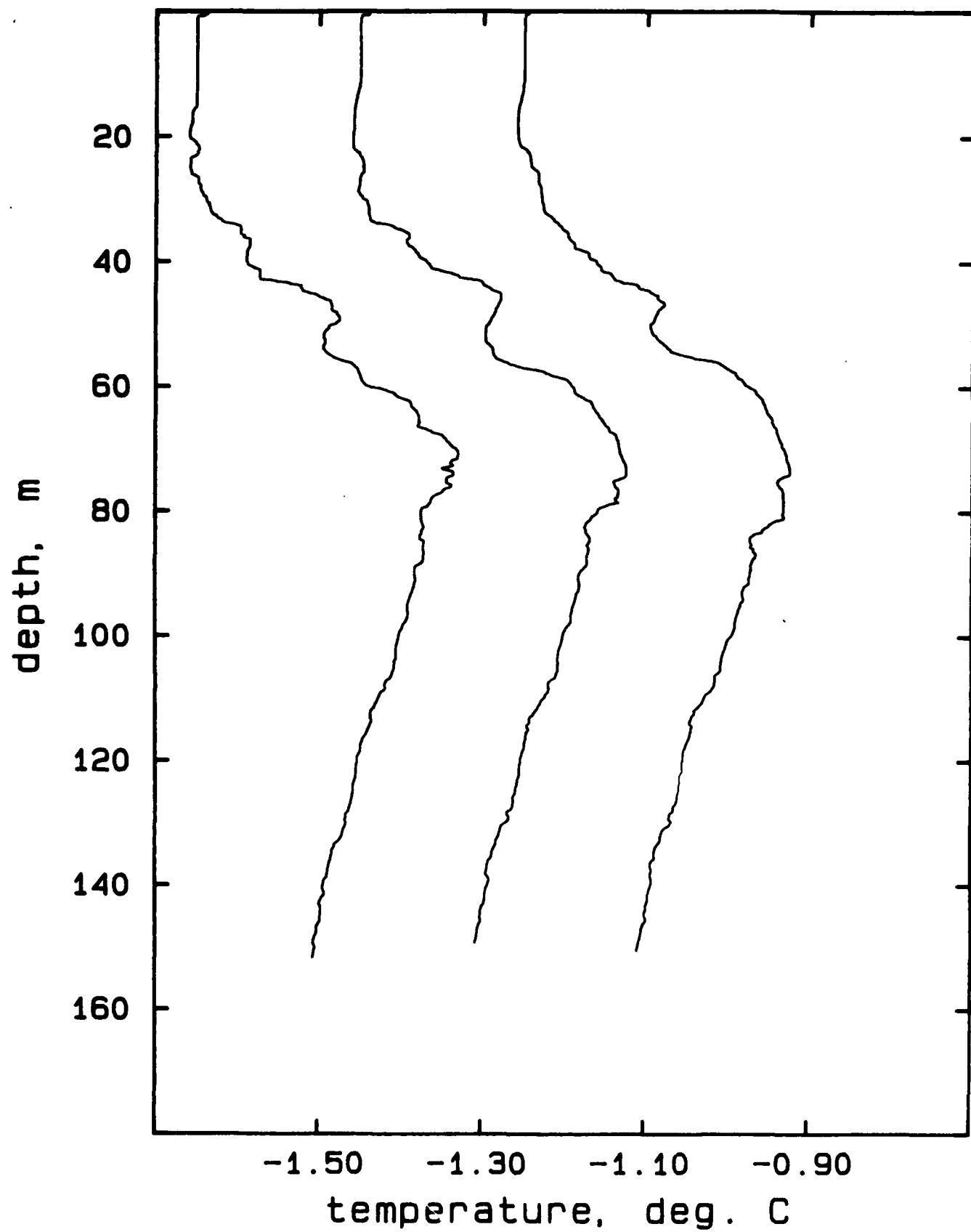
## AR324A, drops 5, 6, 8, 9



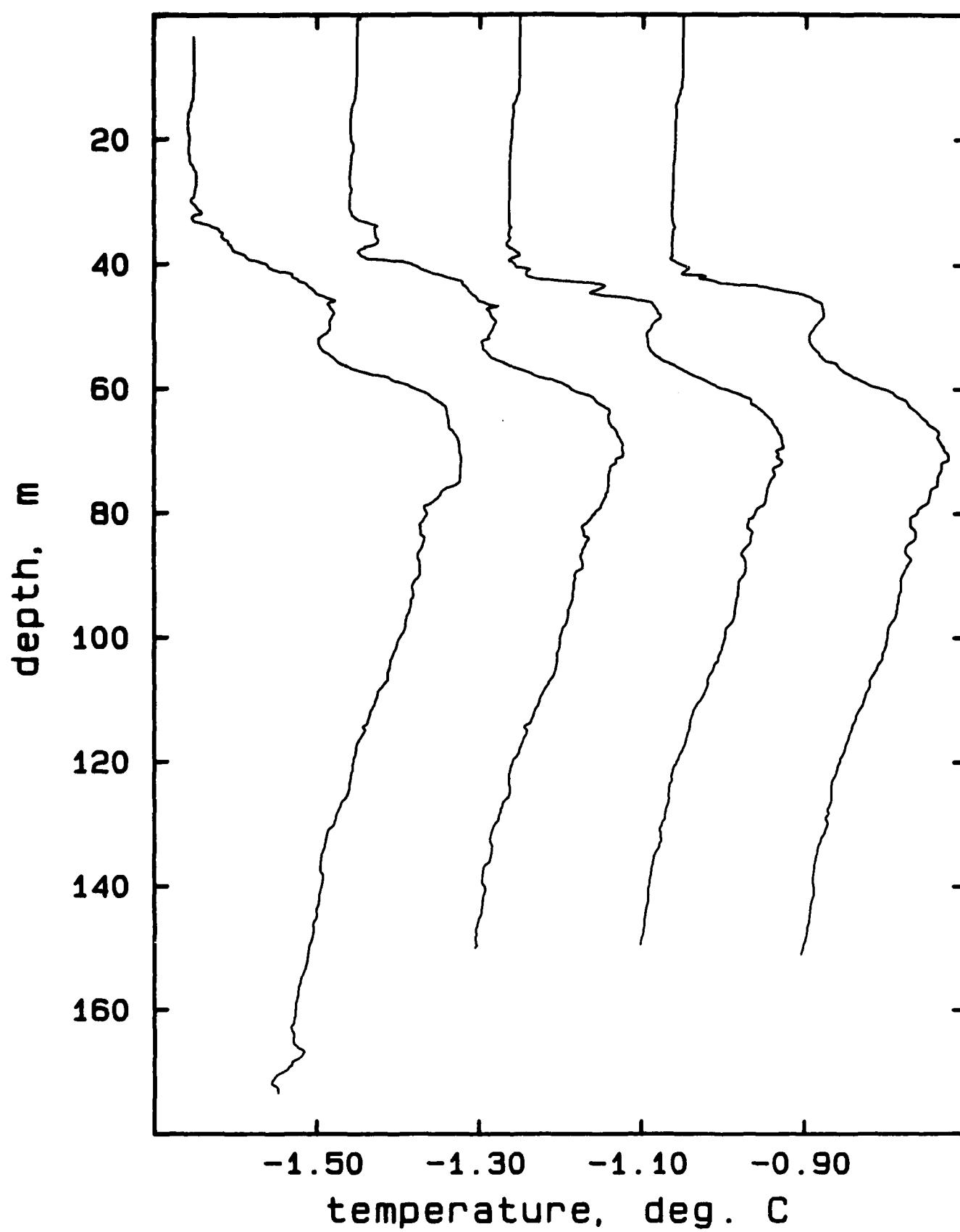
## AR324A, drops 10-12



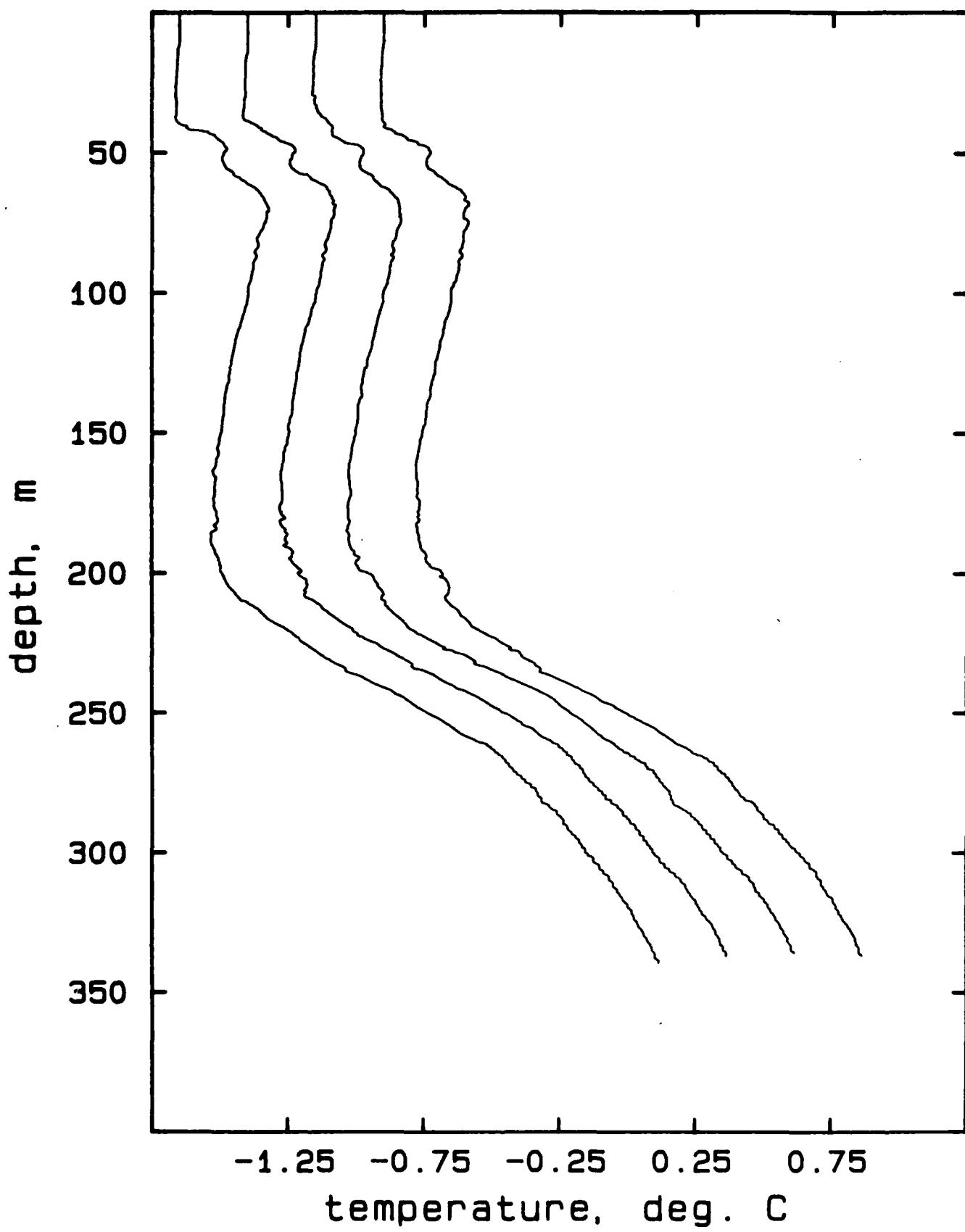
## AR324A, drops 13-15



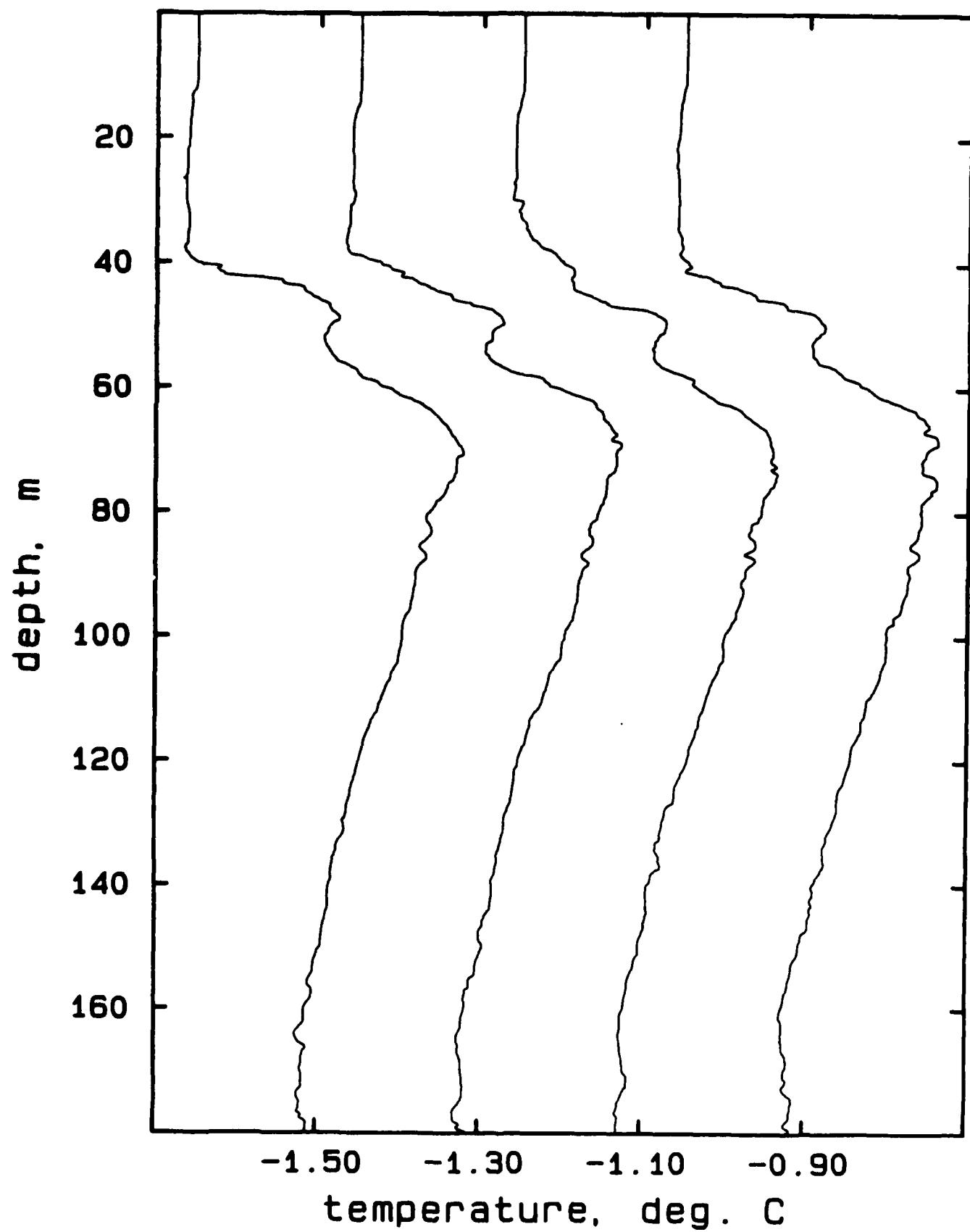
## AR324B, drops 1-4



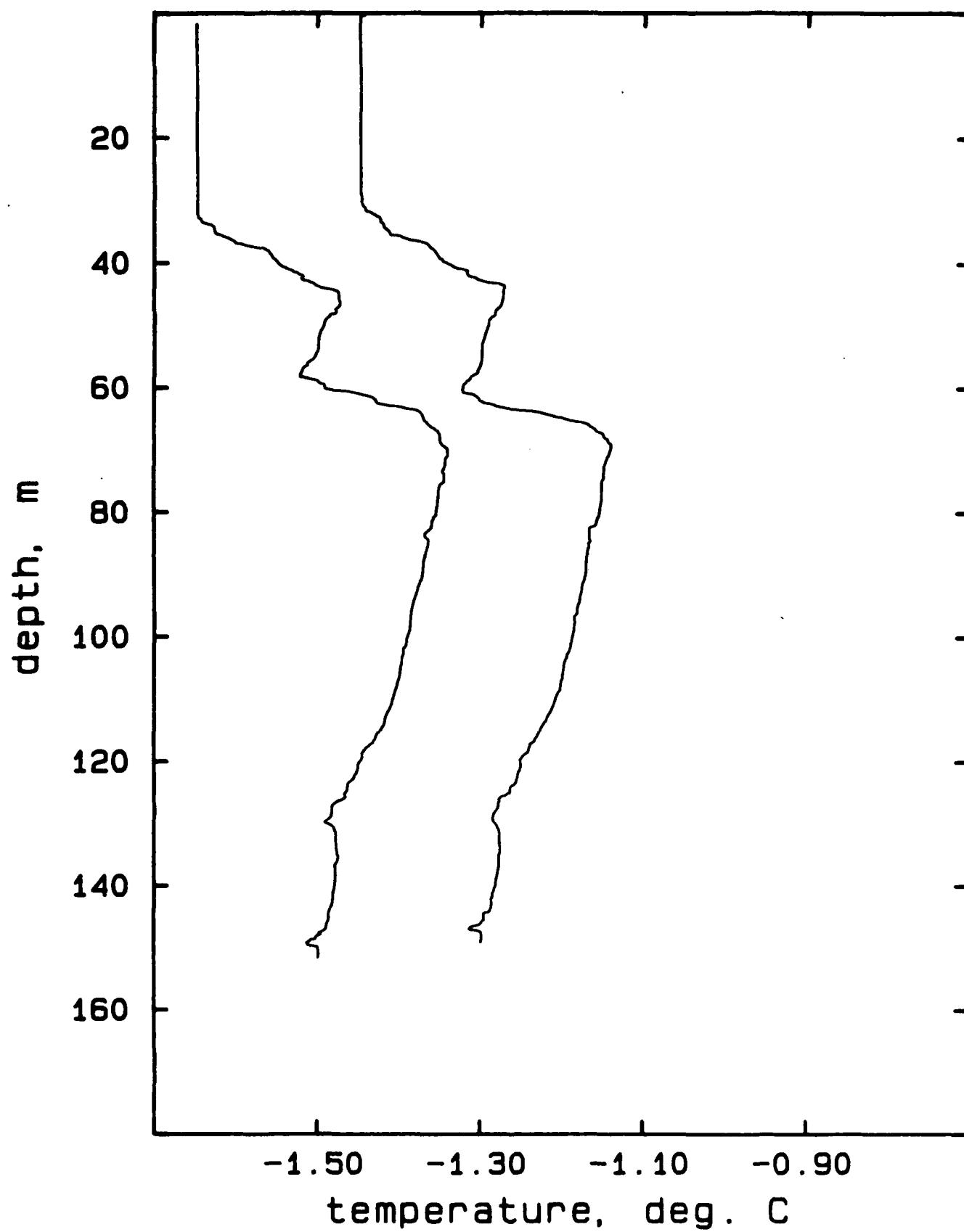
## AR324B, drops 5-8



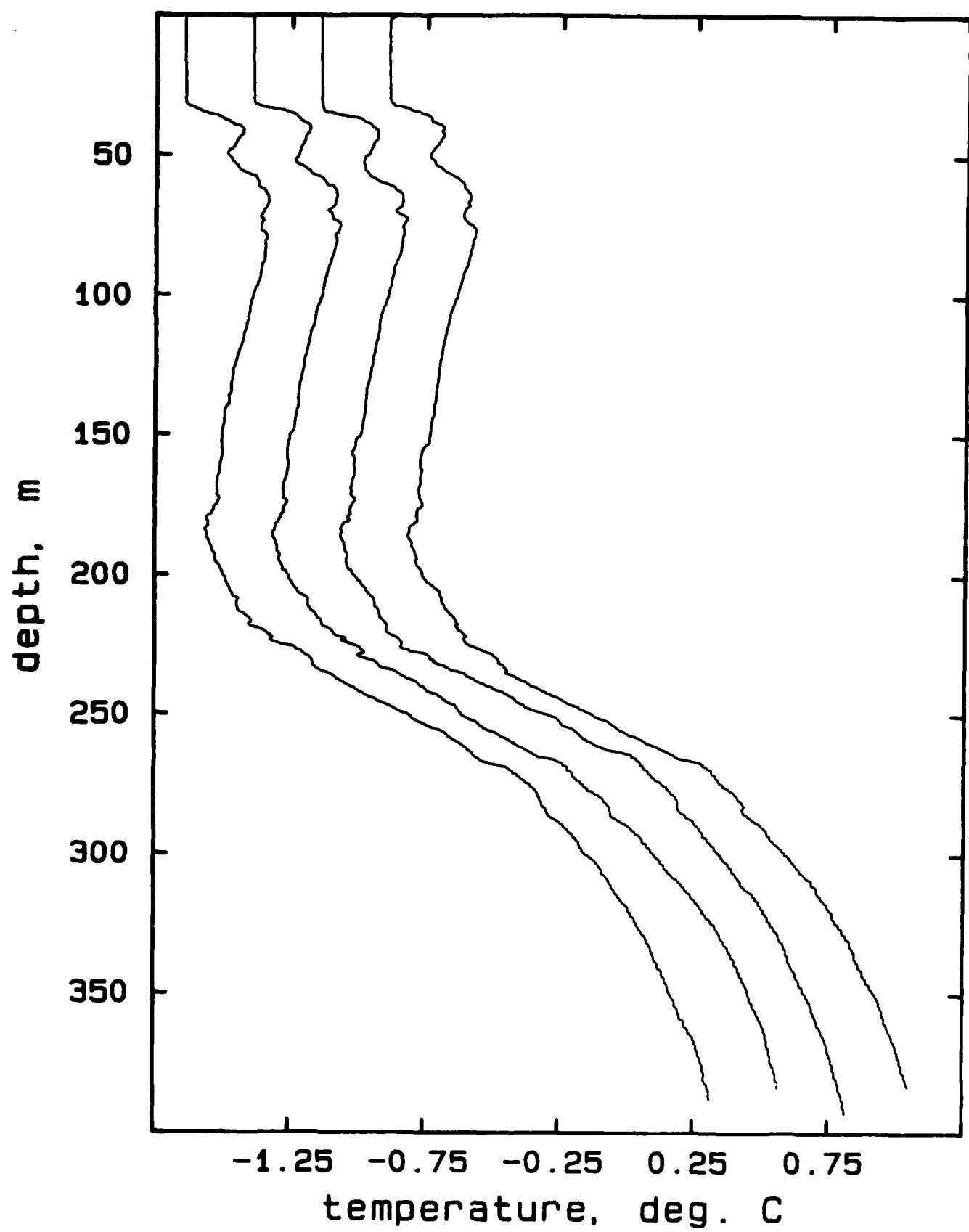
## AR324B, drops 5-8



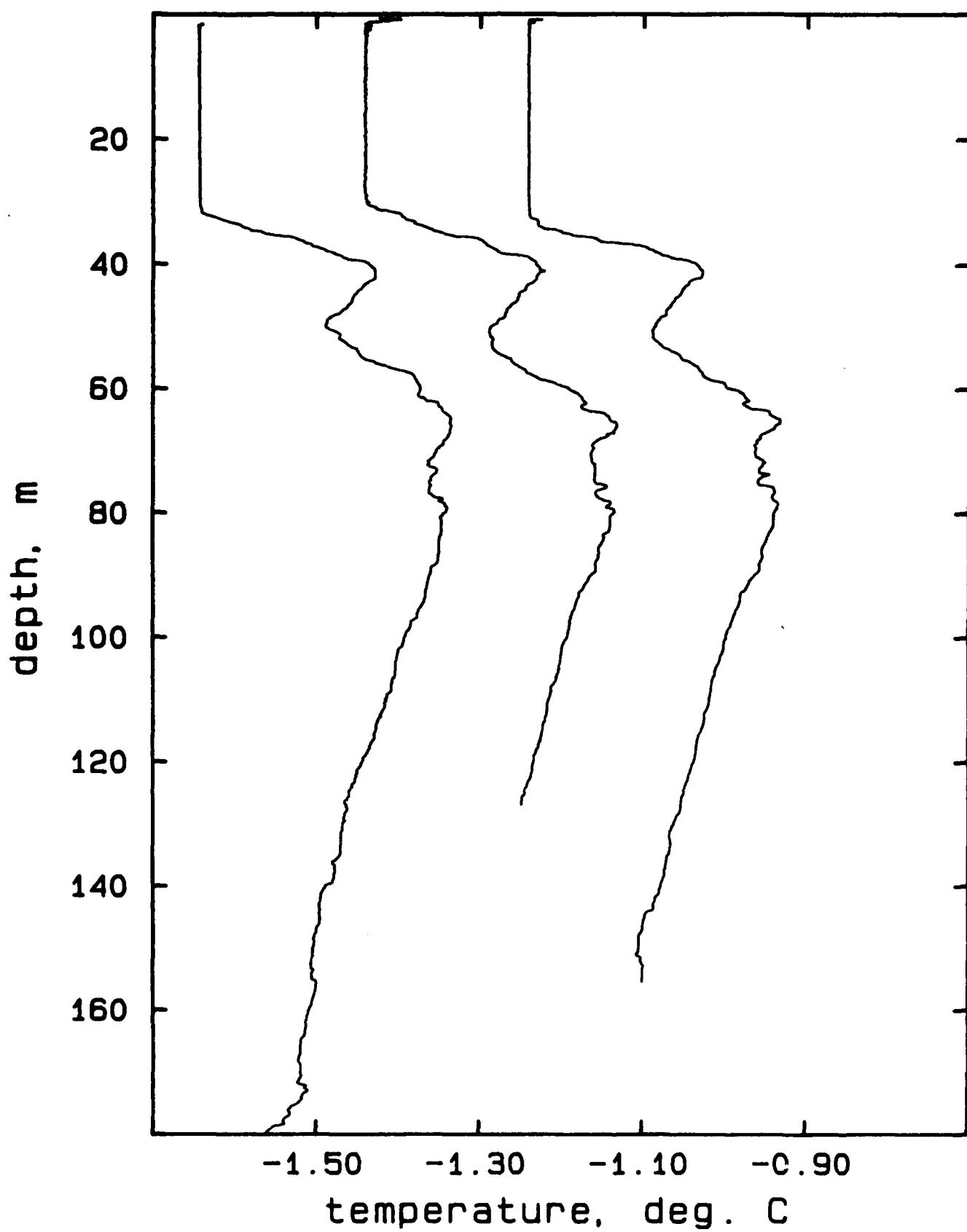
## AR325A, drops 9-10



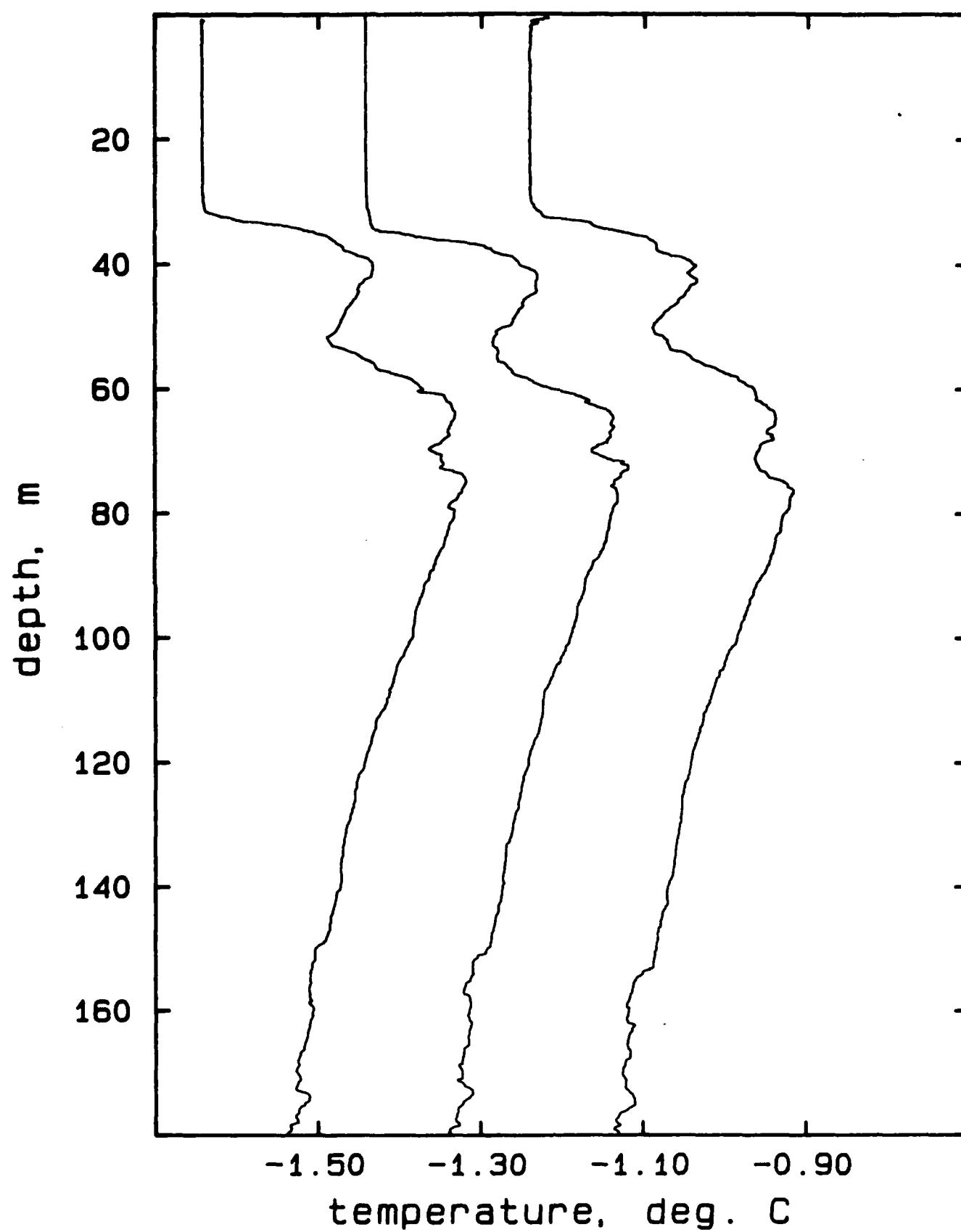
## AR326A, drops 1, 4-6



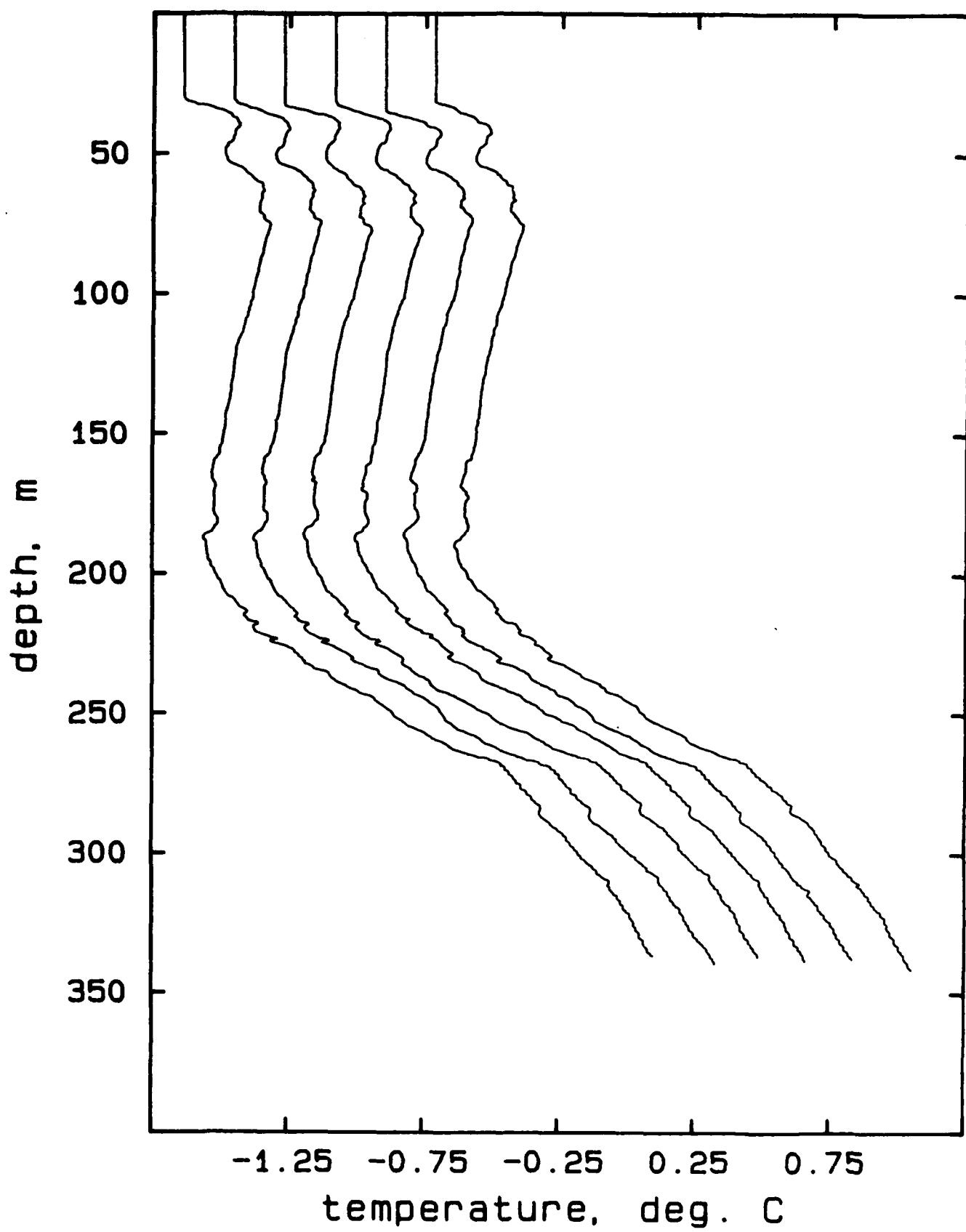
## AR326A, drops 1-3



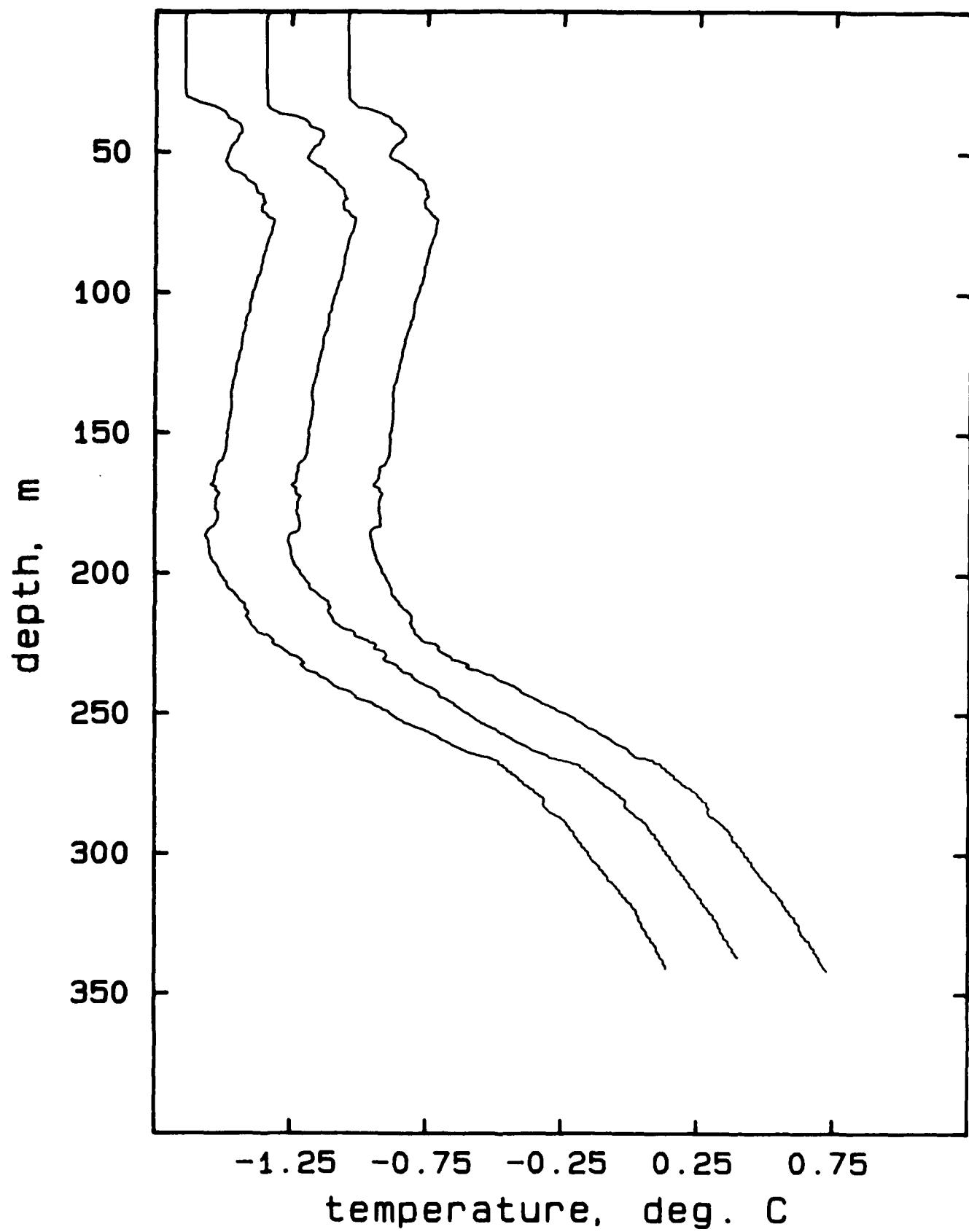
## AR326A, drops 4-6



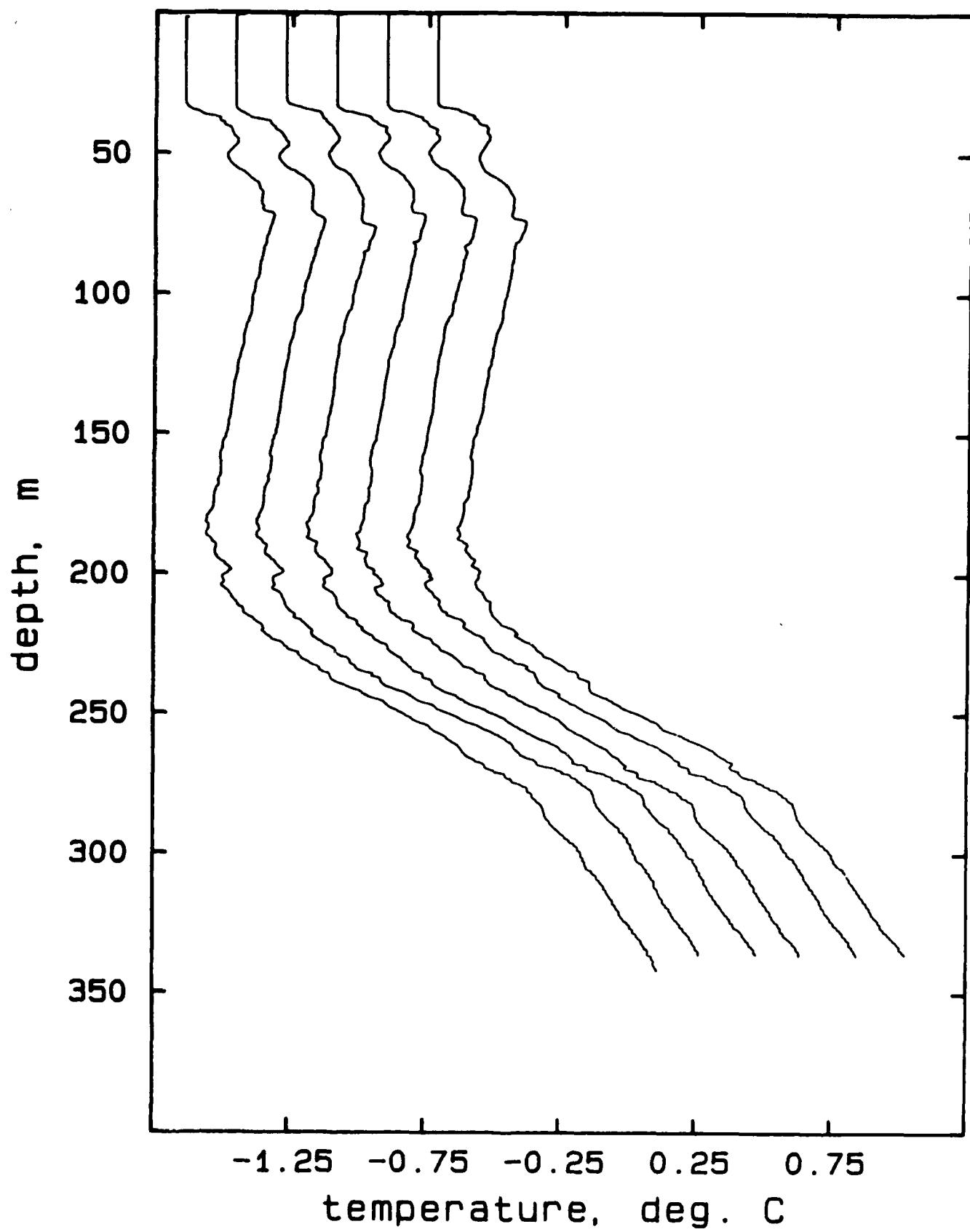
## AR326B, drops 1-6



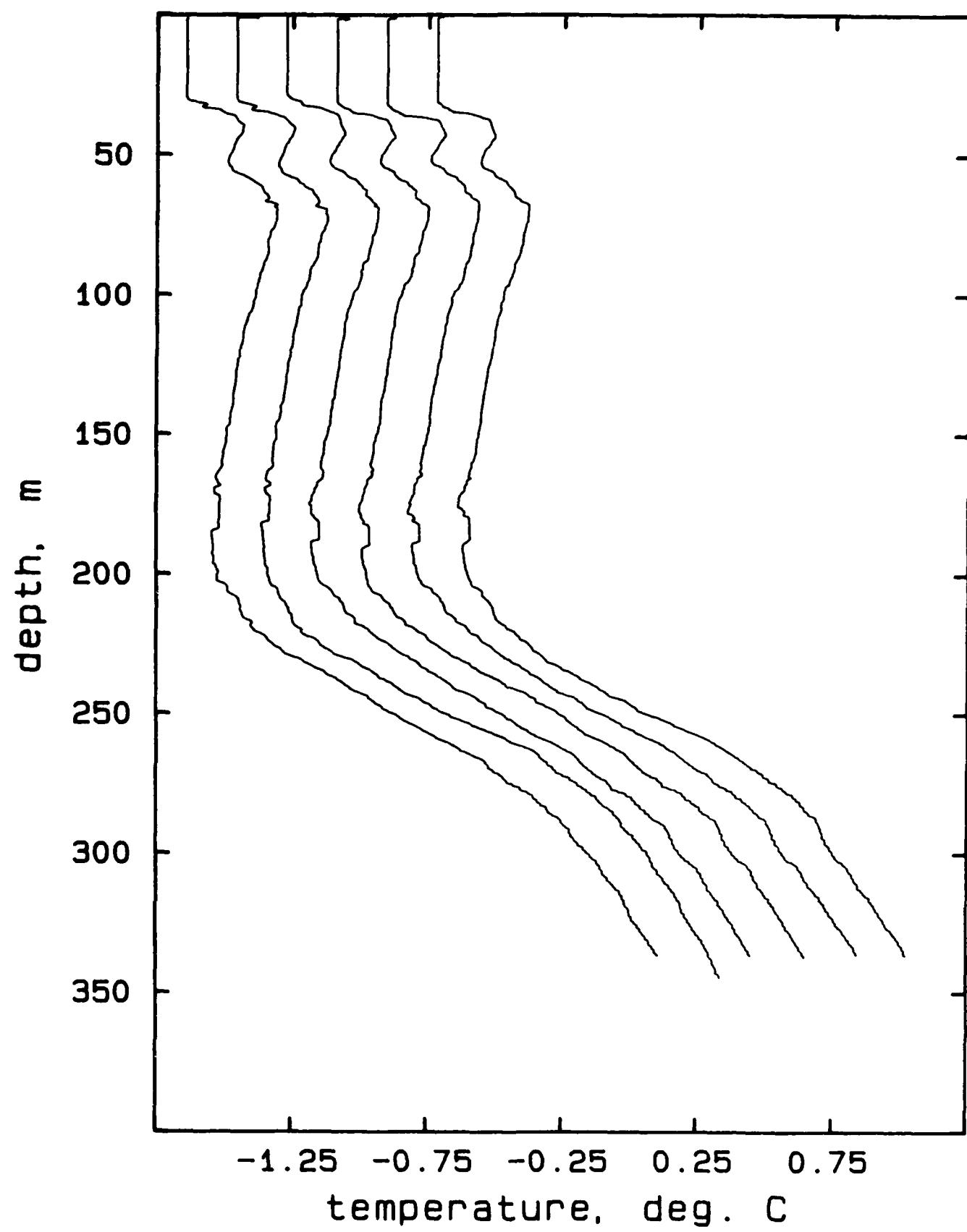
## AR326C, drops 1-3



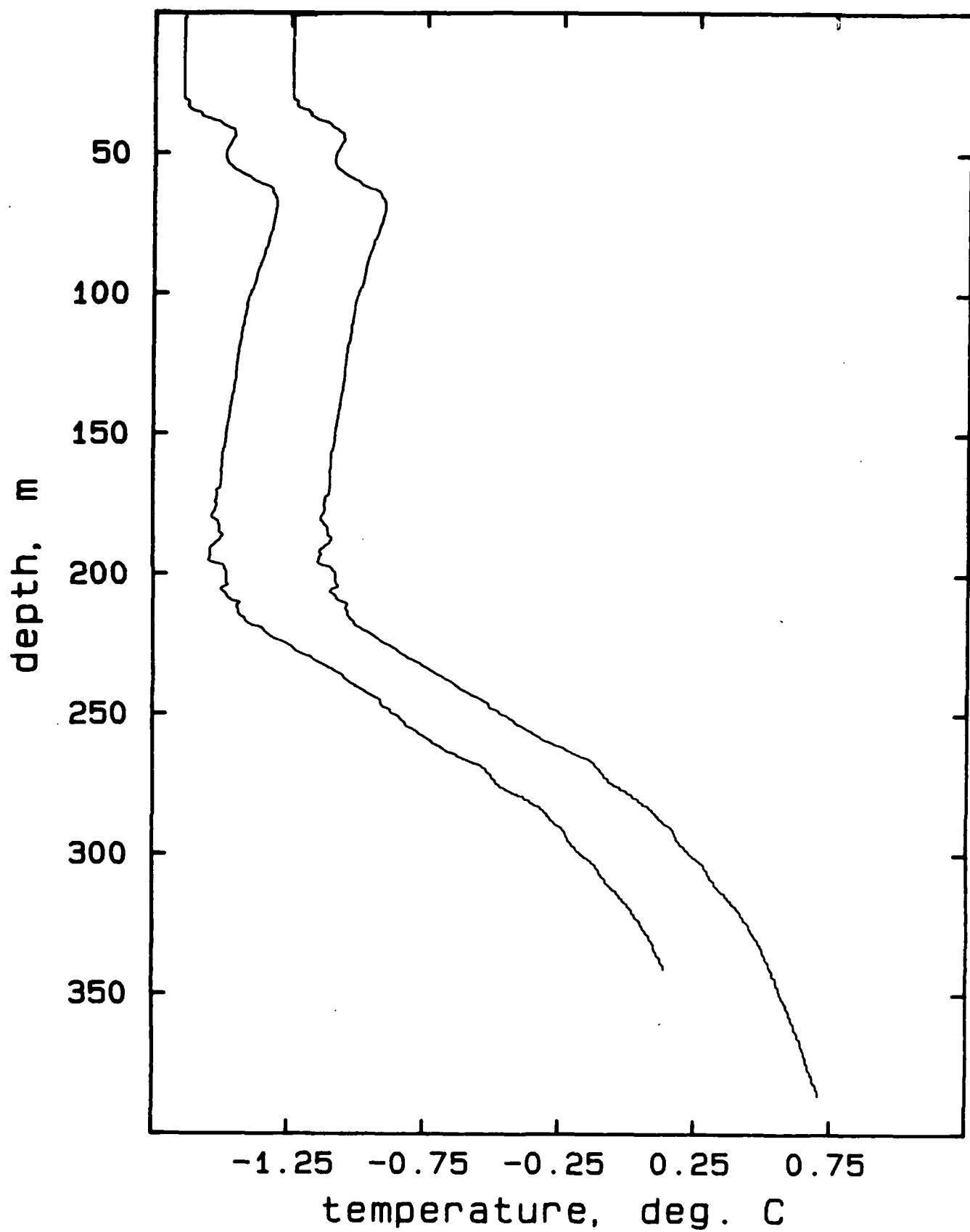
## AR327A, drops 1-6



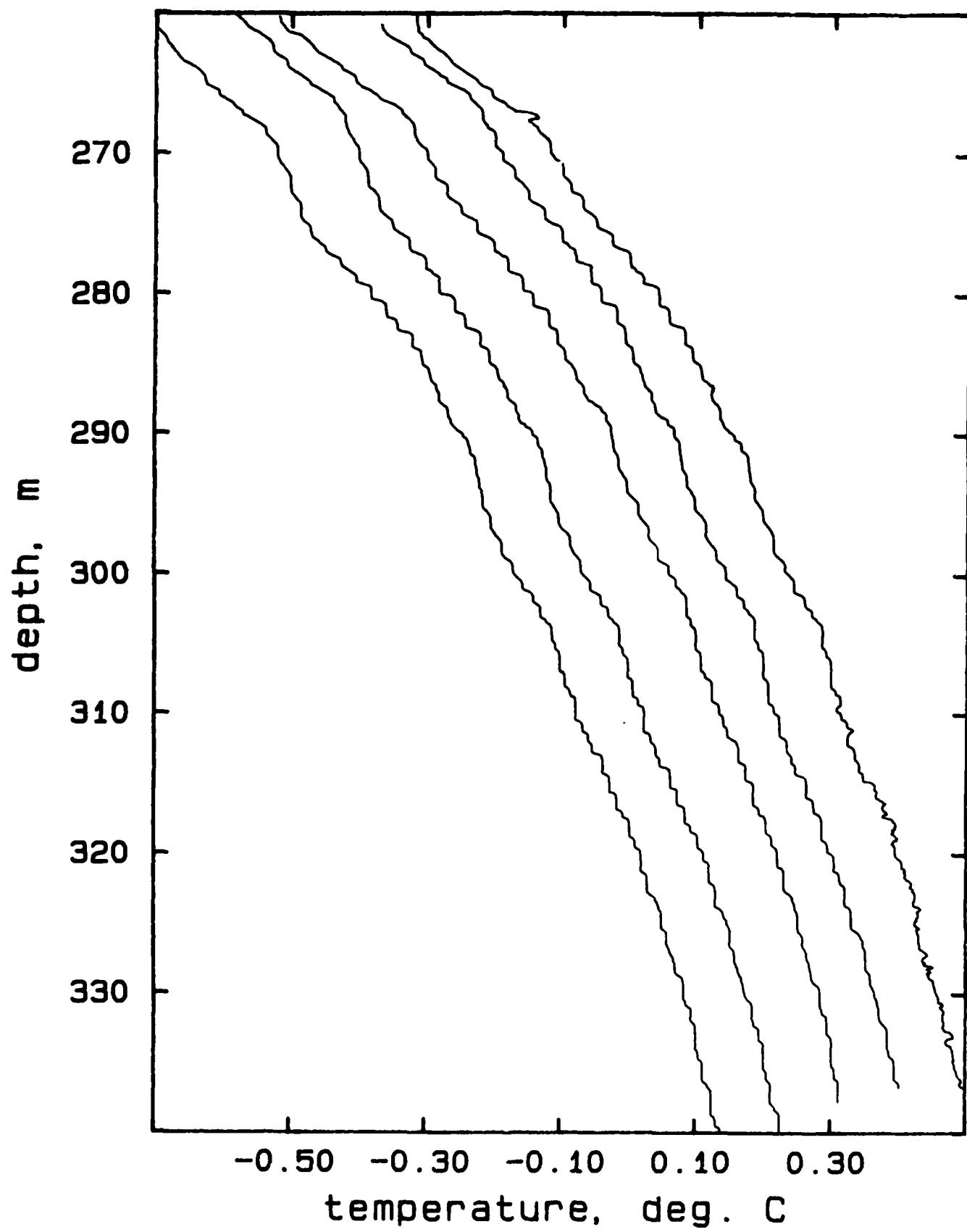
## AR327B, drops 1-6



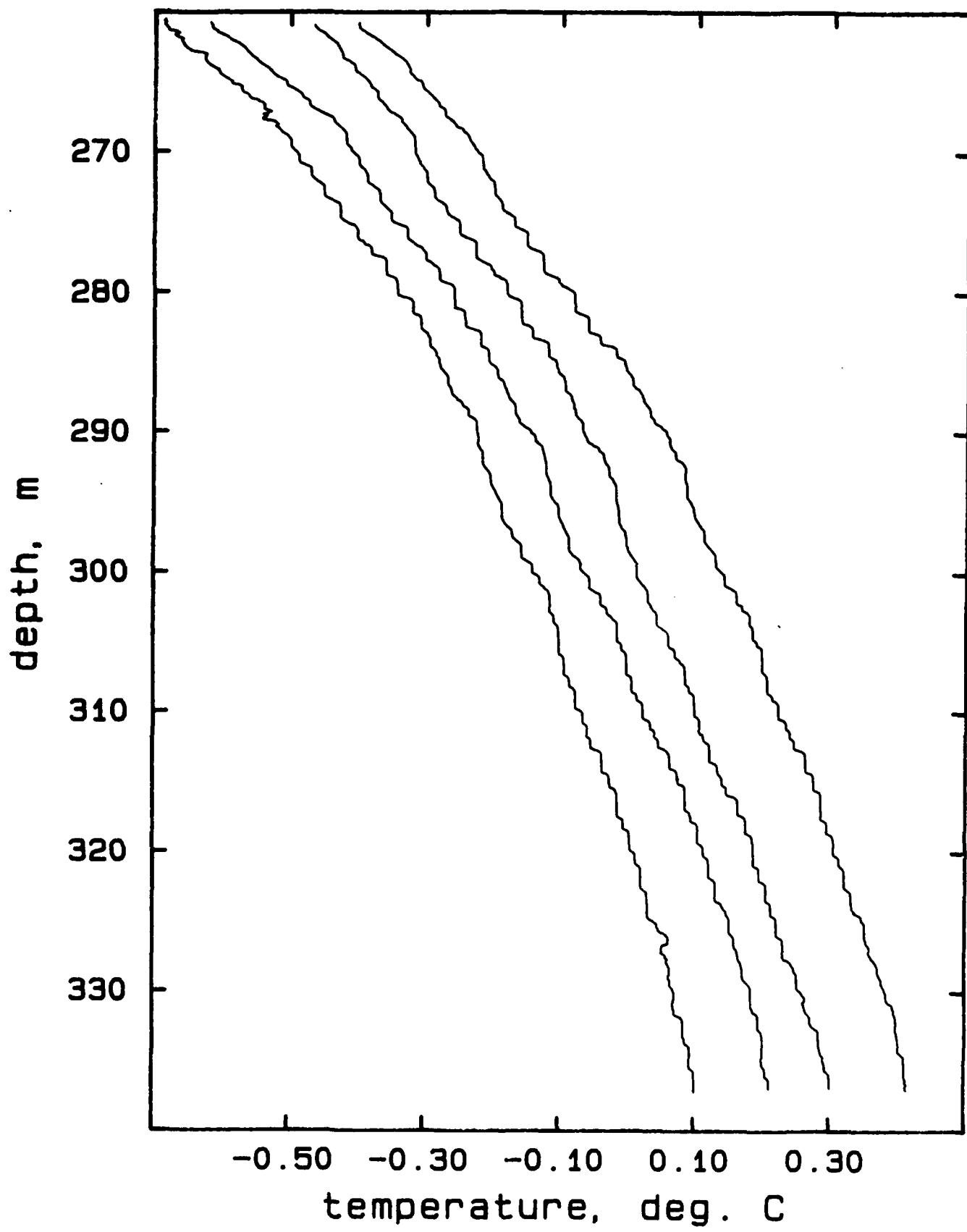
## AR328A, drops 1, 2



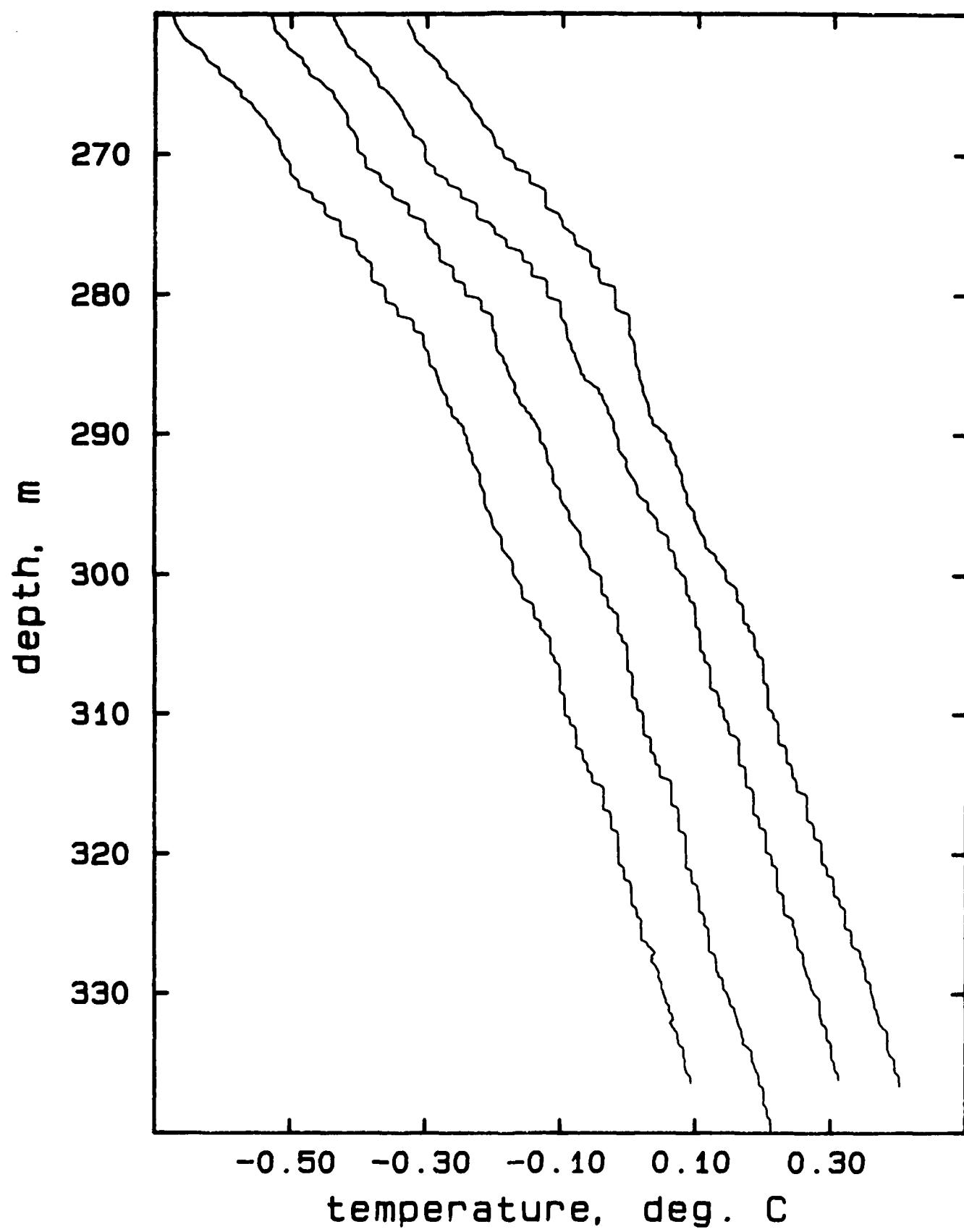
## AR328A, drops 1-5



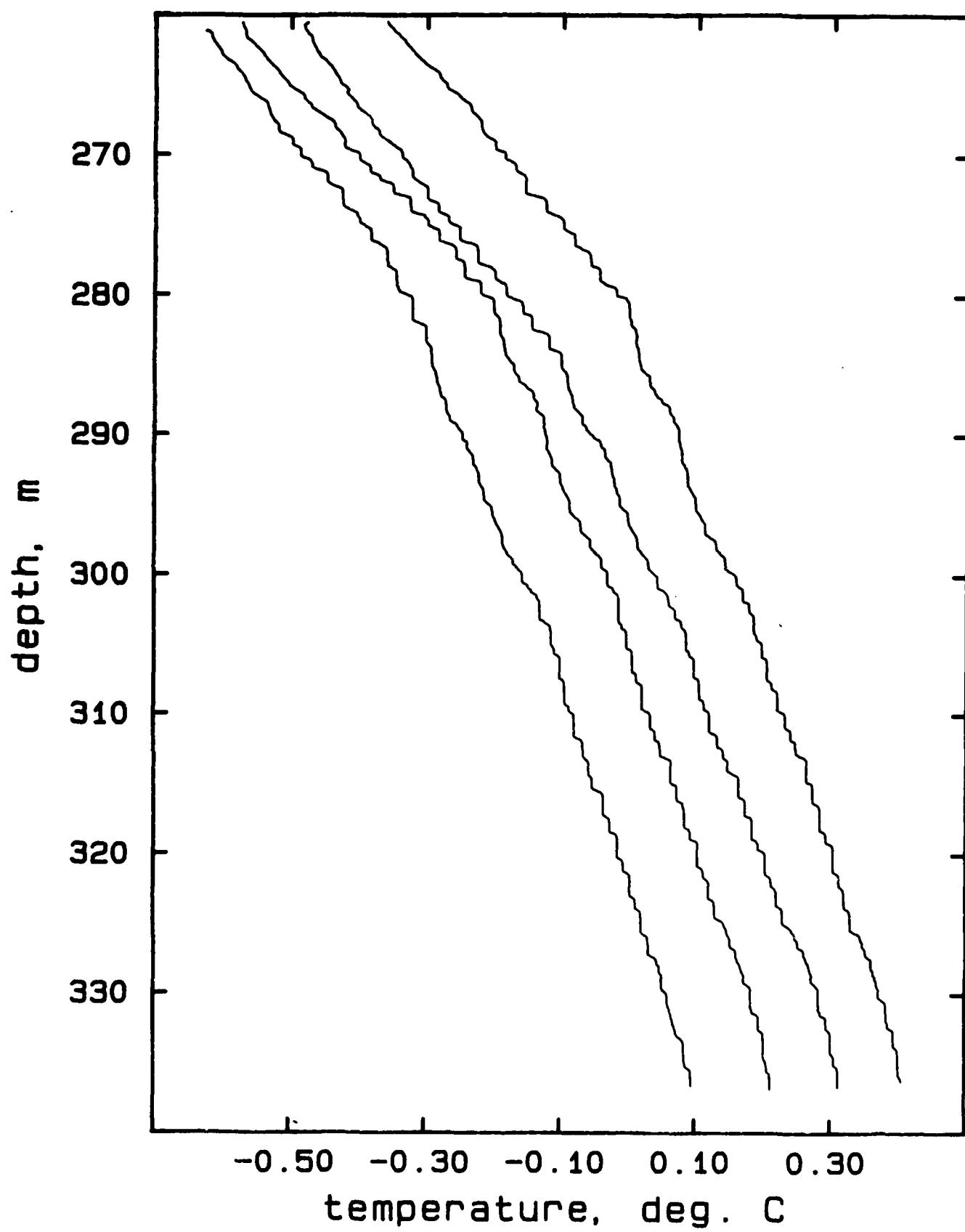
## AR328A, drops 6, 8-10



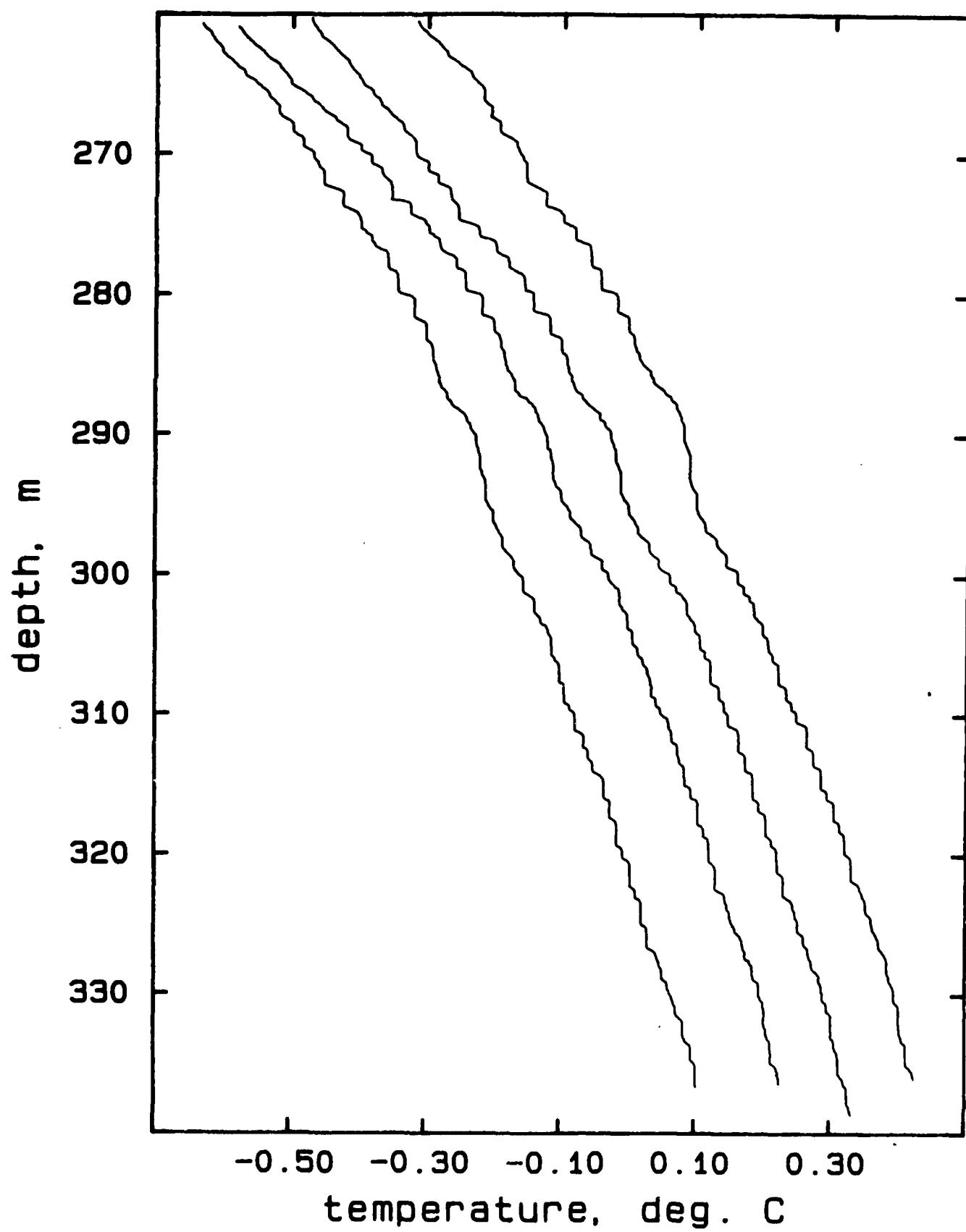
## AR328A, drops 11-14



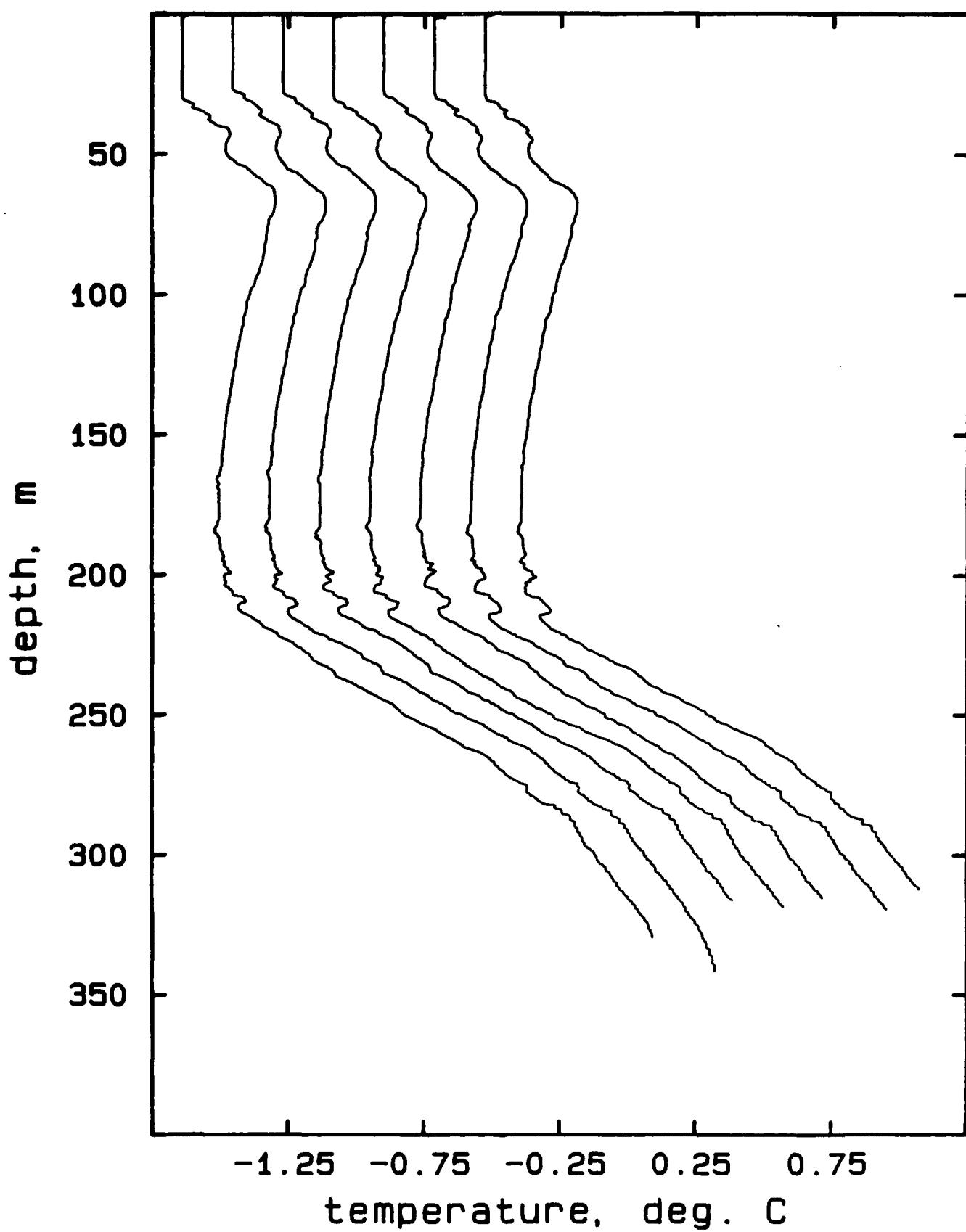
## AR328A, drops 15-18



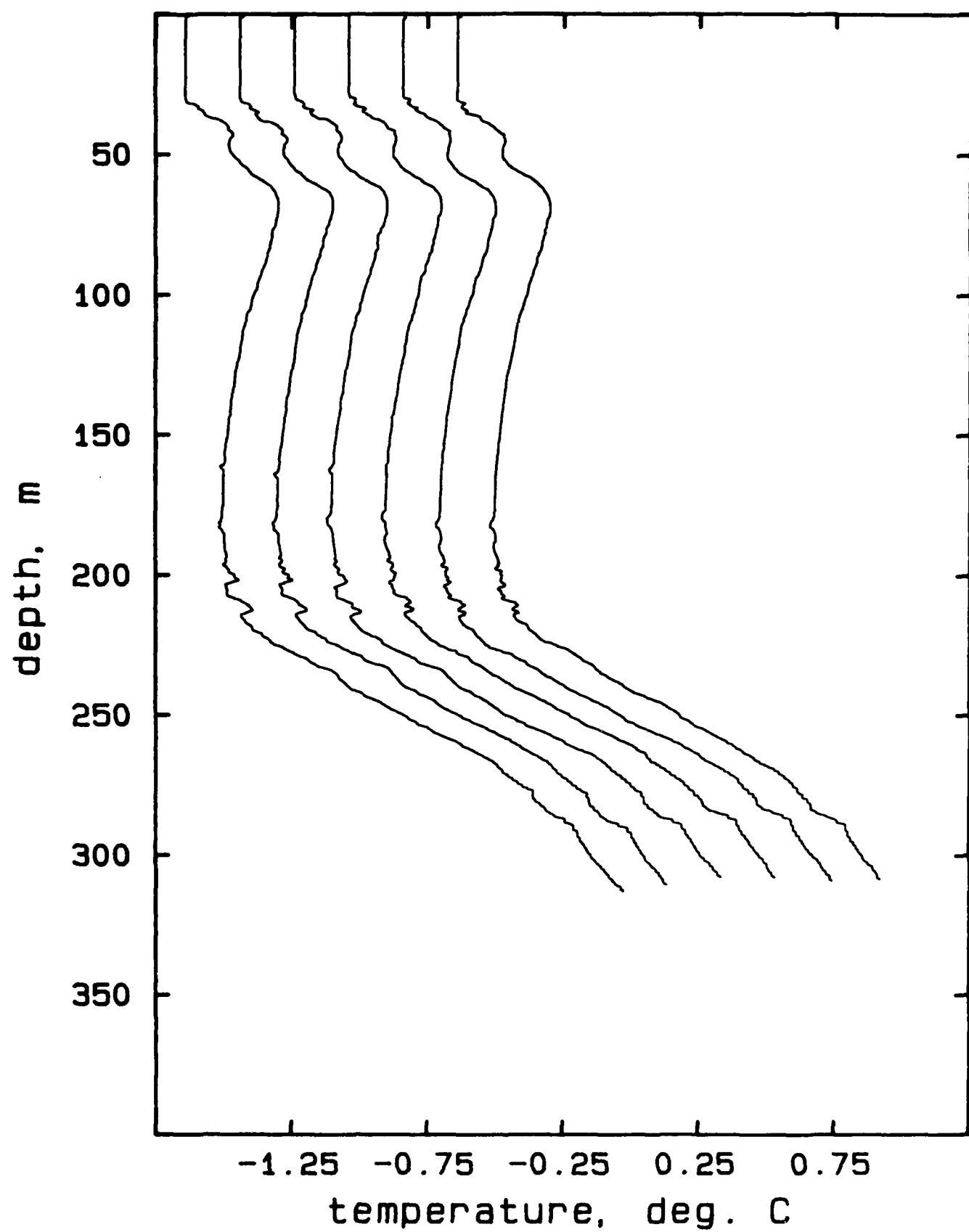
## AR328A, drops 19-22



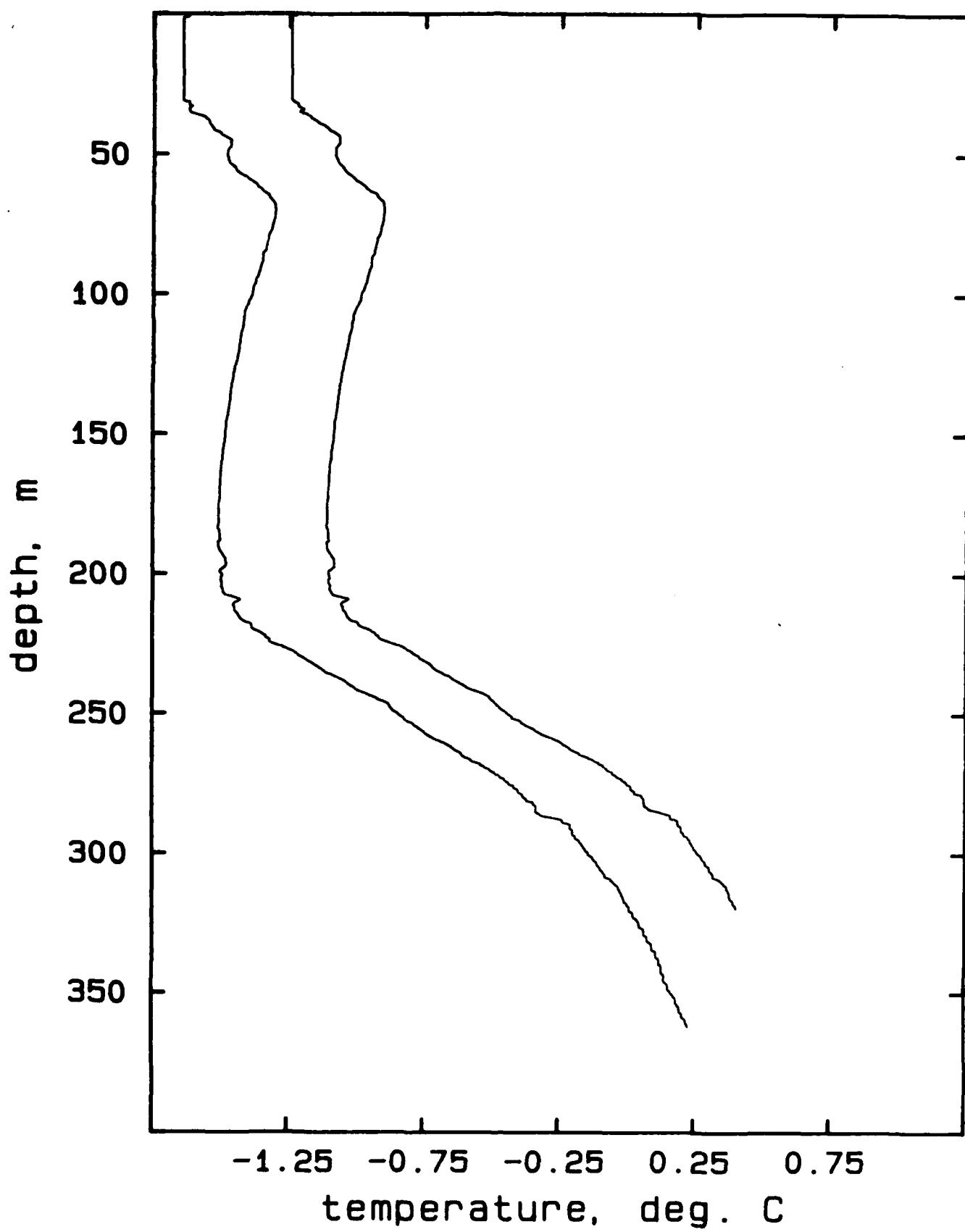
## AR329A, drops 1-7



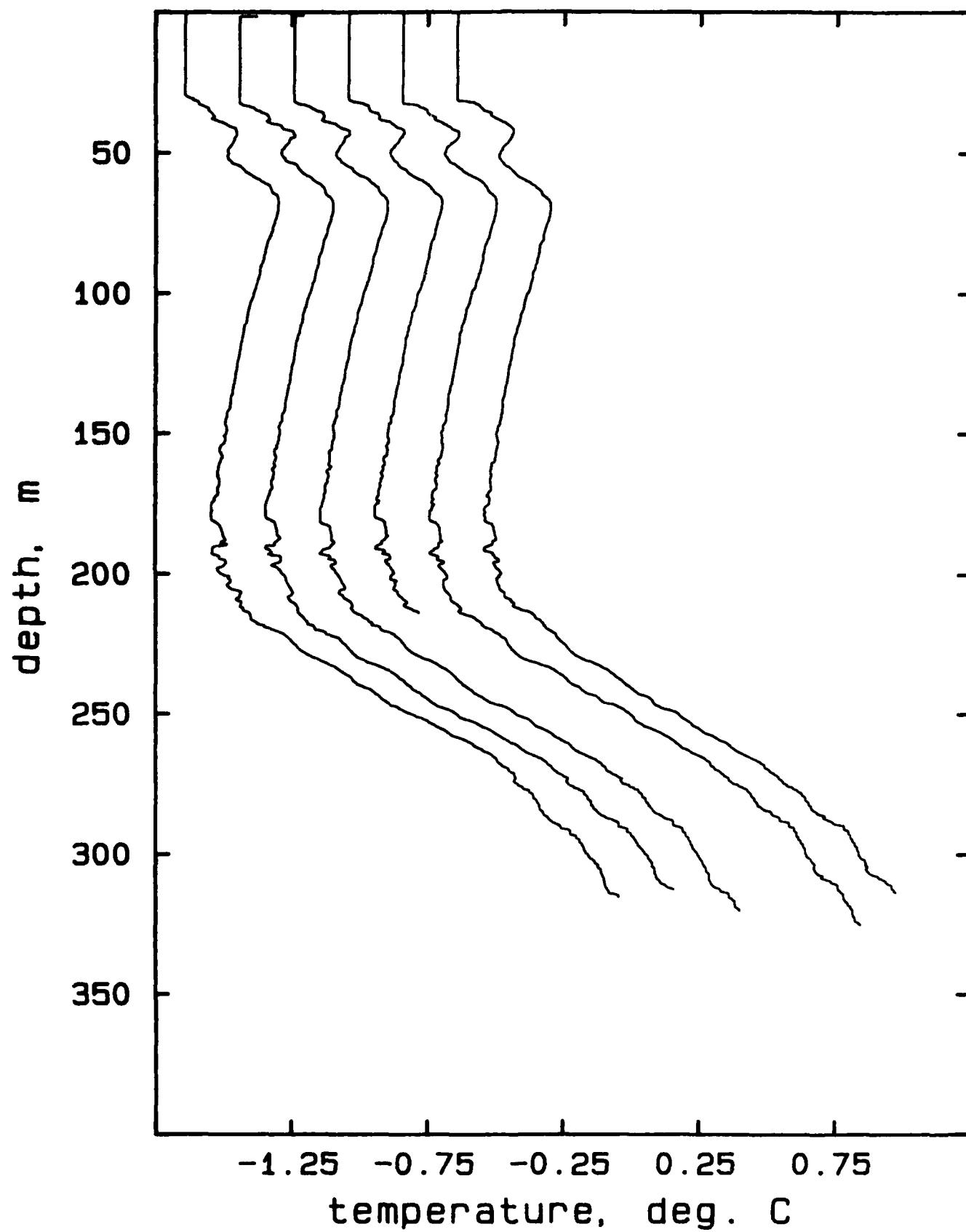
## AR329B, drops 1-6



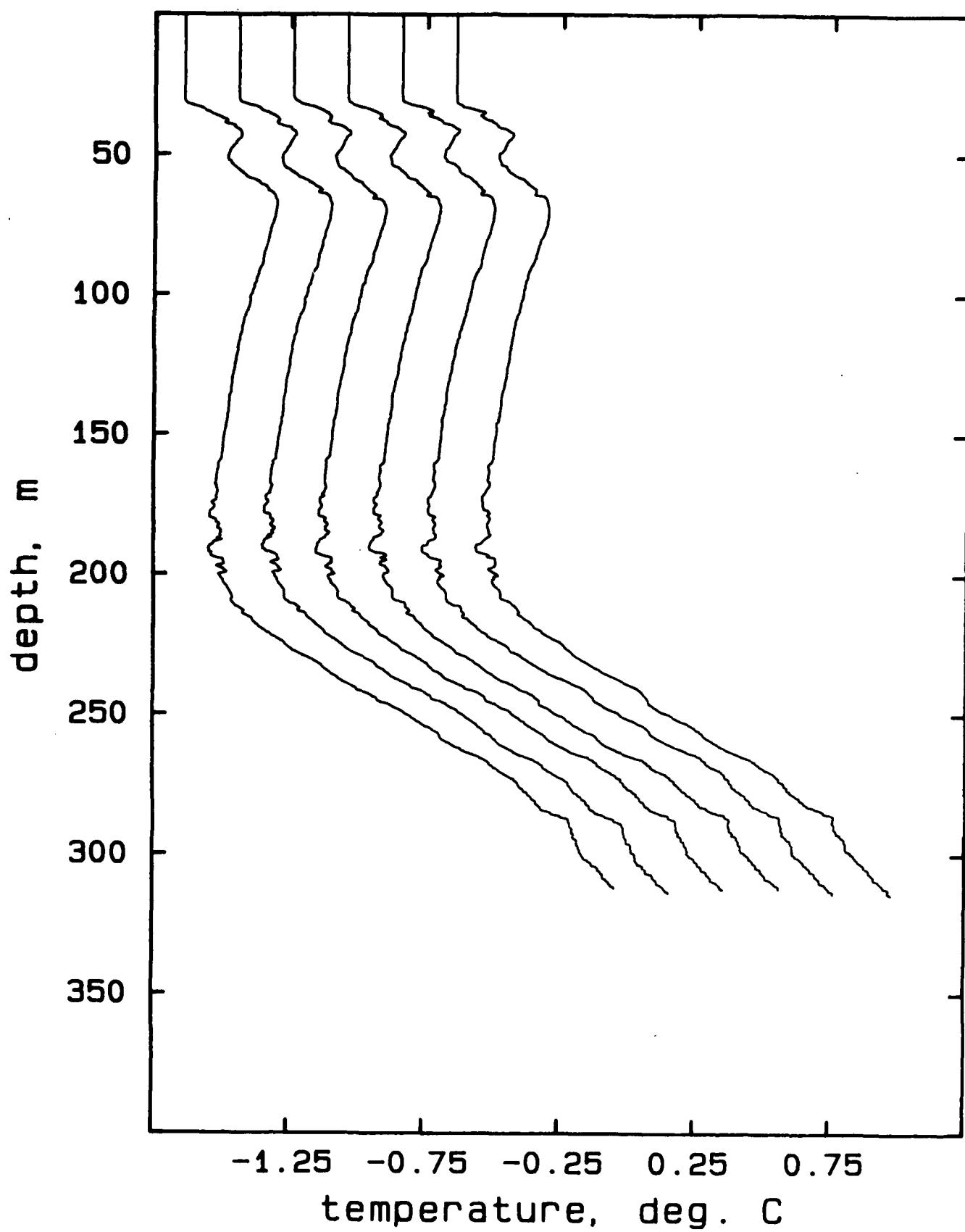
## AR329C, drops 1, 2



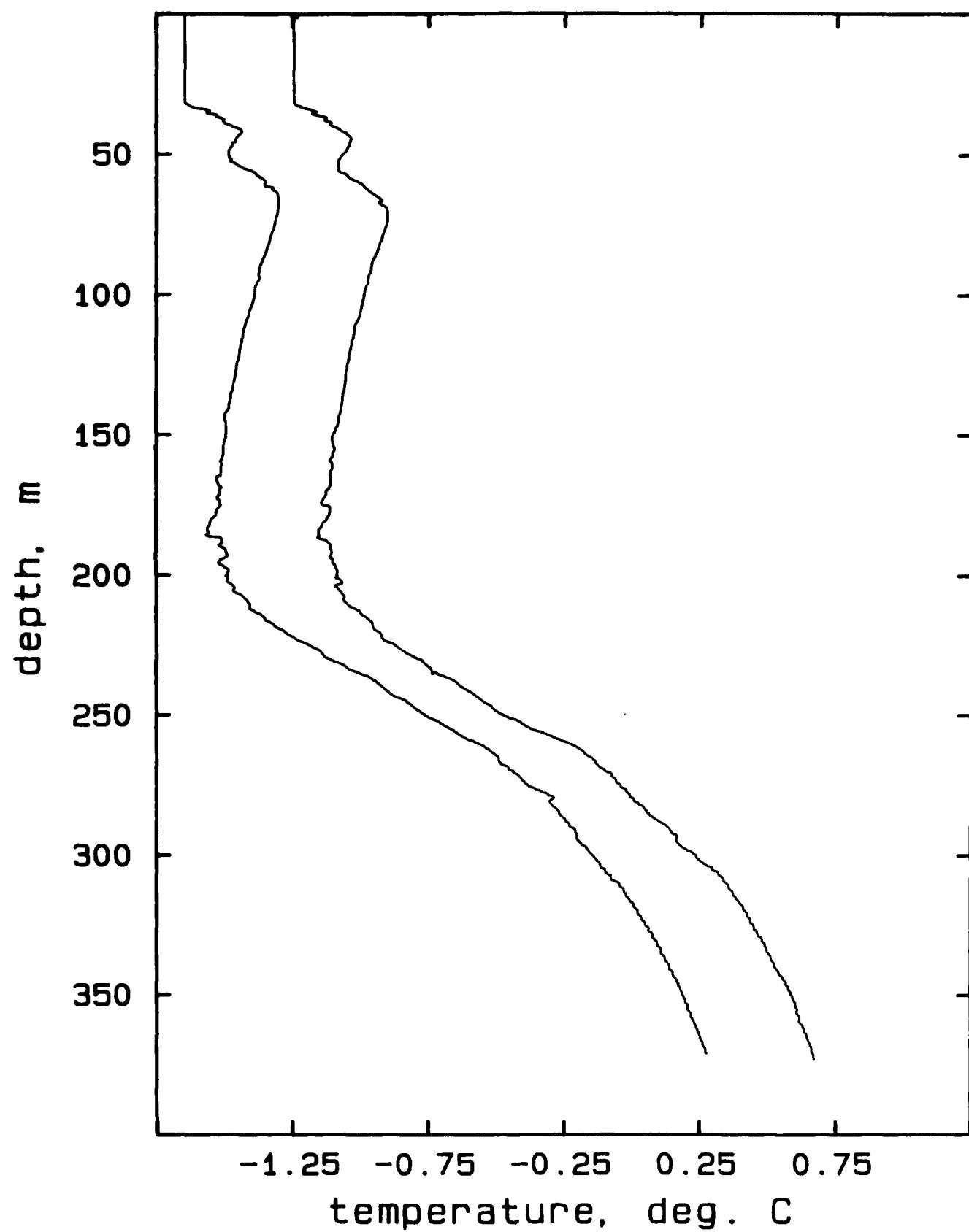
## AR330A, drops 1-6



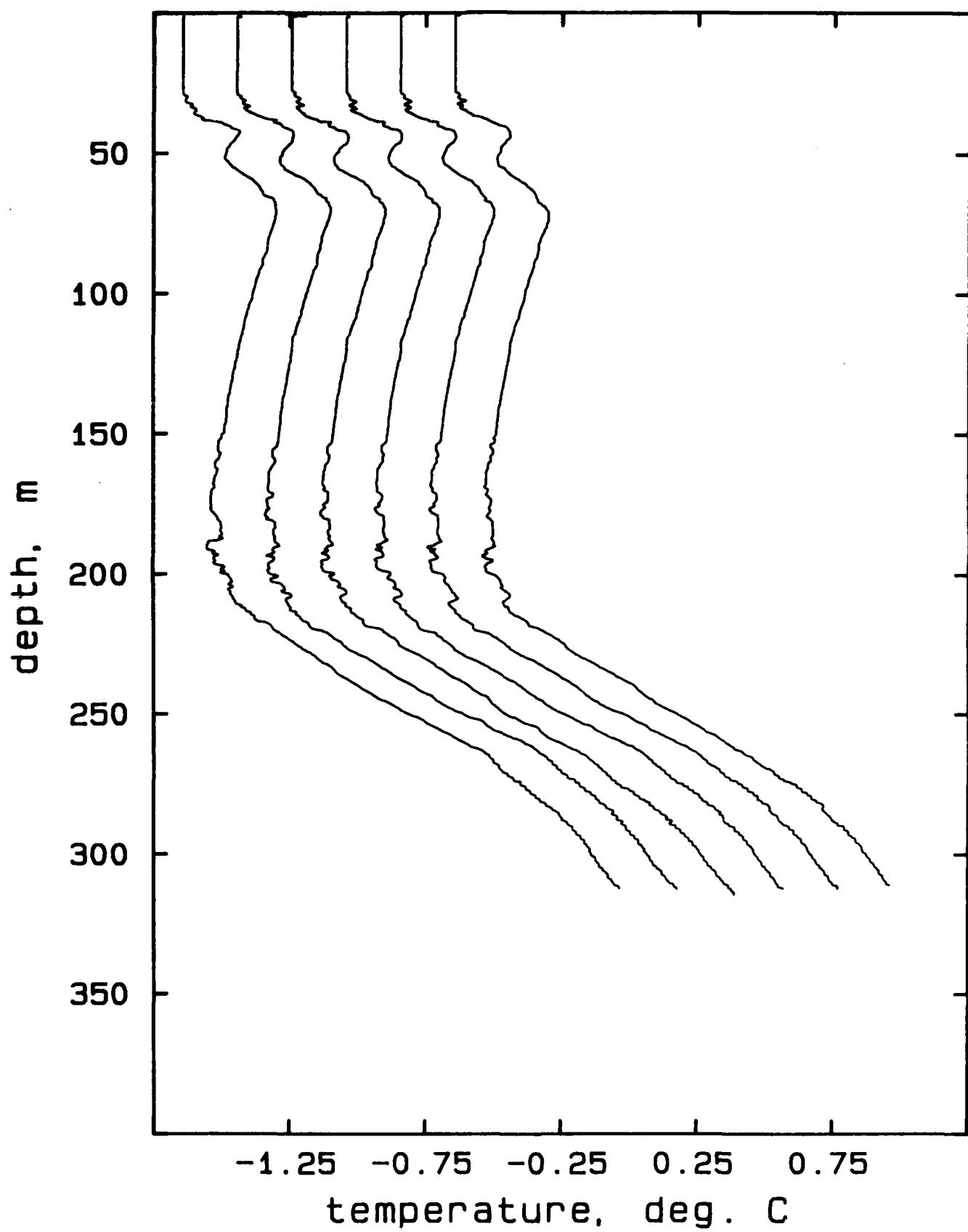
## AR330B, drops 1-6



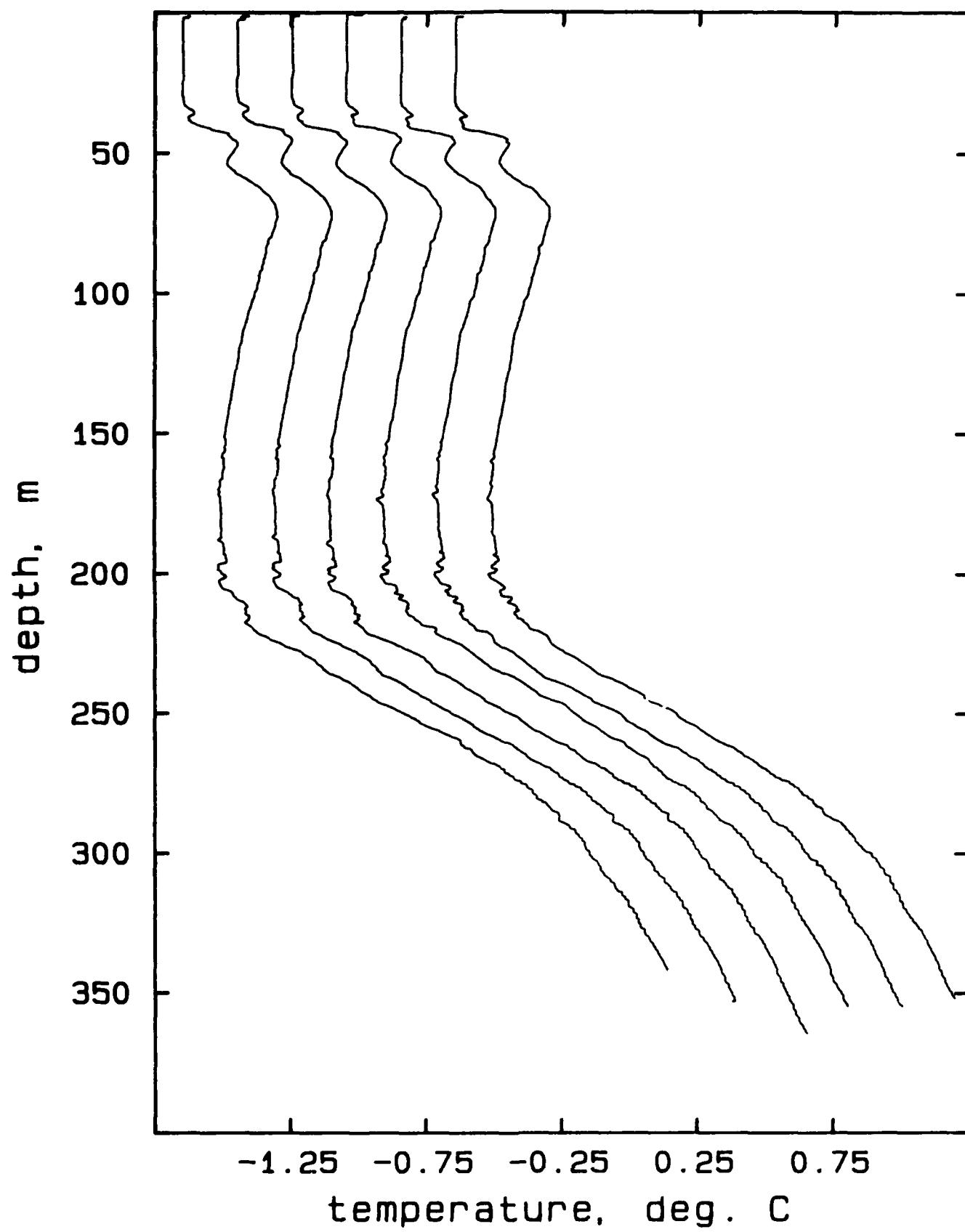
## AR330C, drops 1, 2



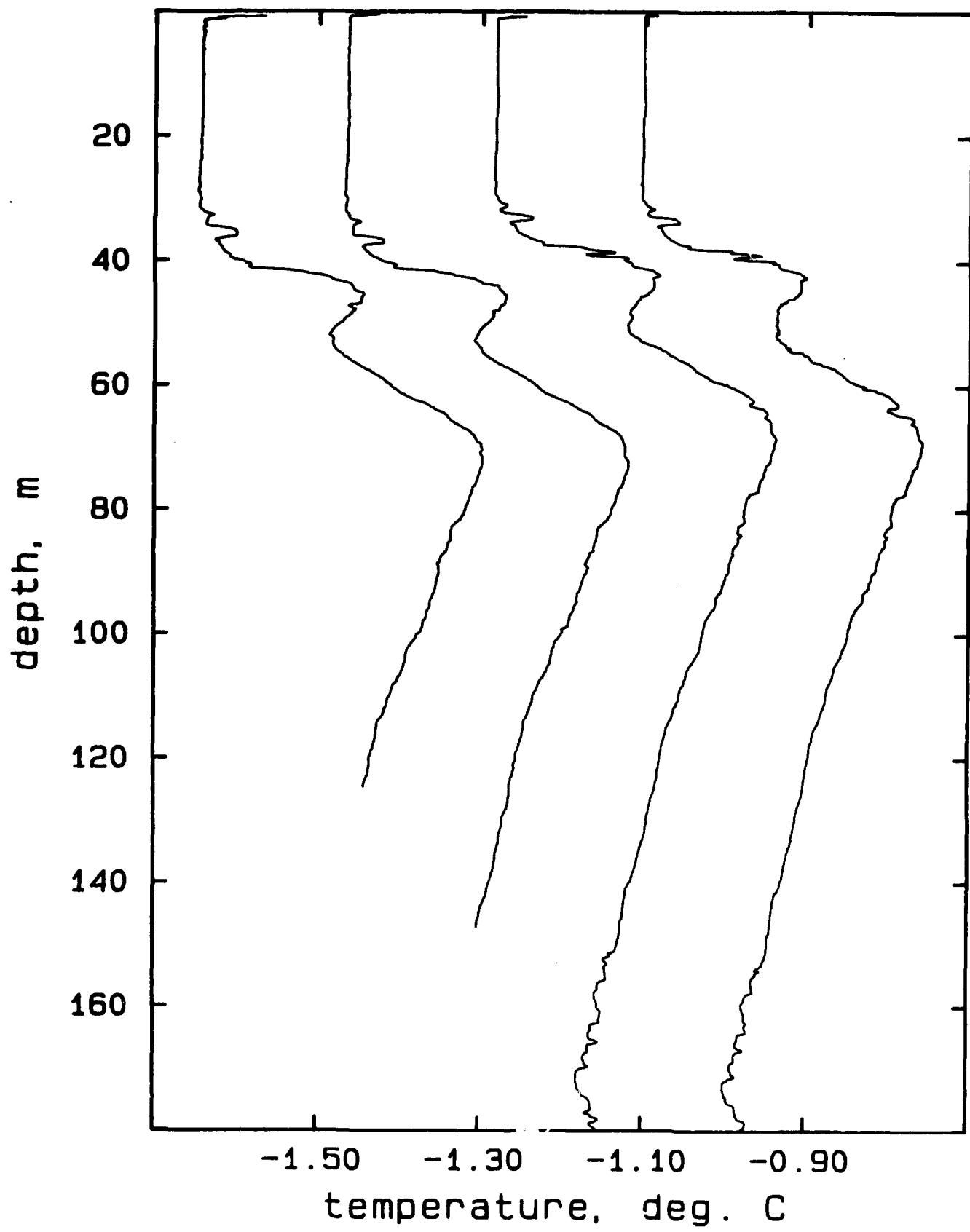
## AR331A, drops 1-6



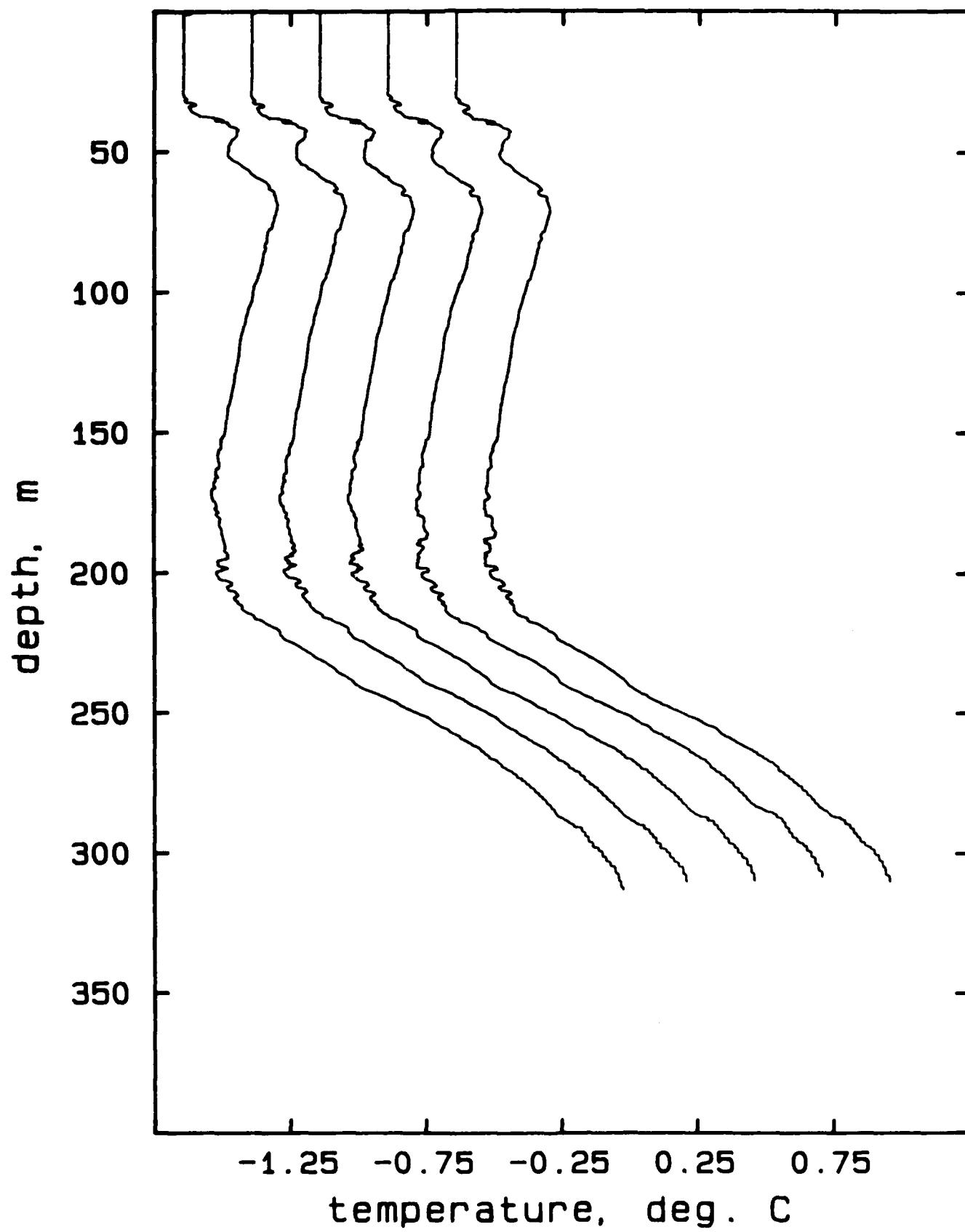
## AR401A, drops 1-6



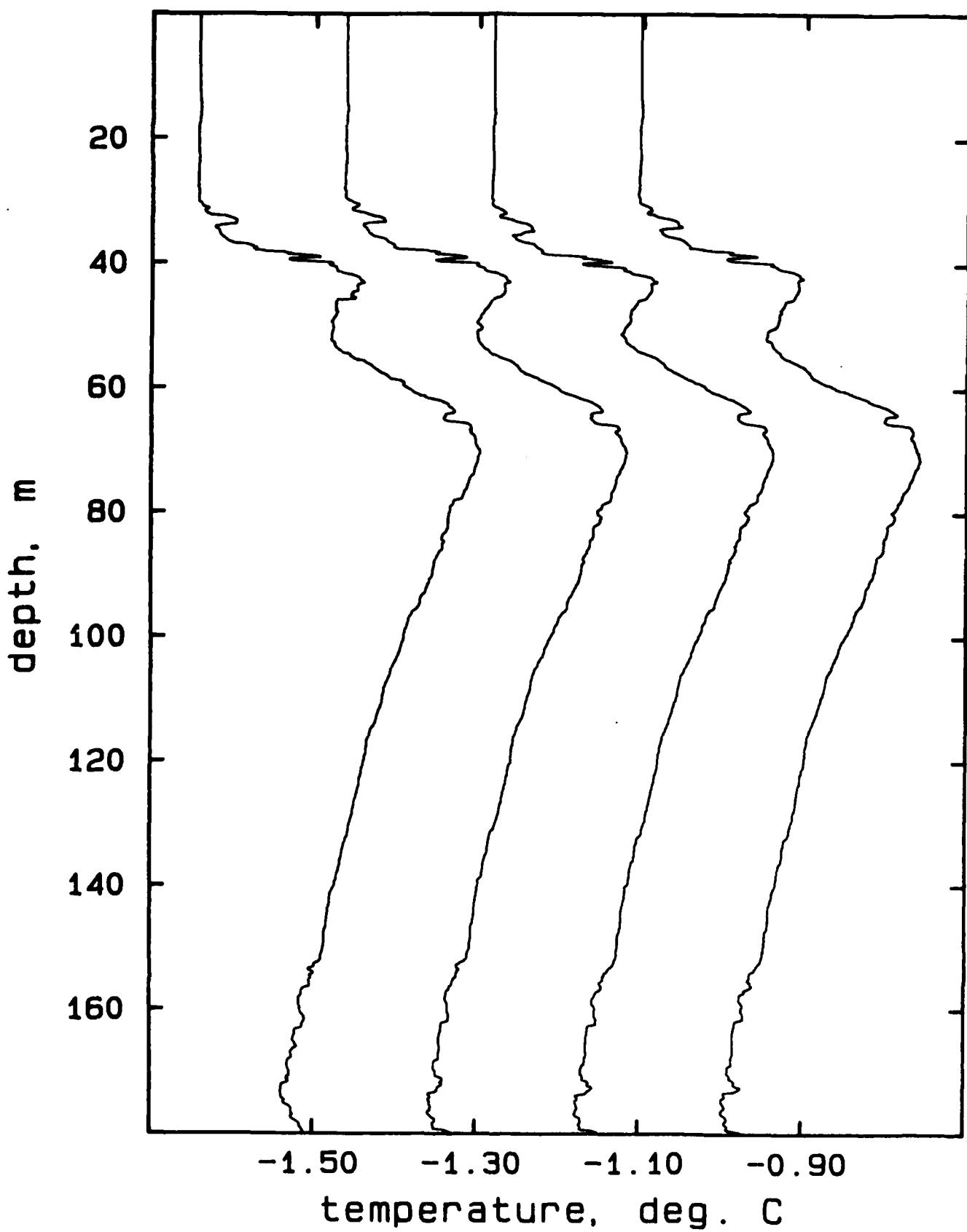
## AR401B, drops 1-4



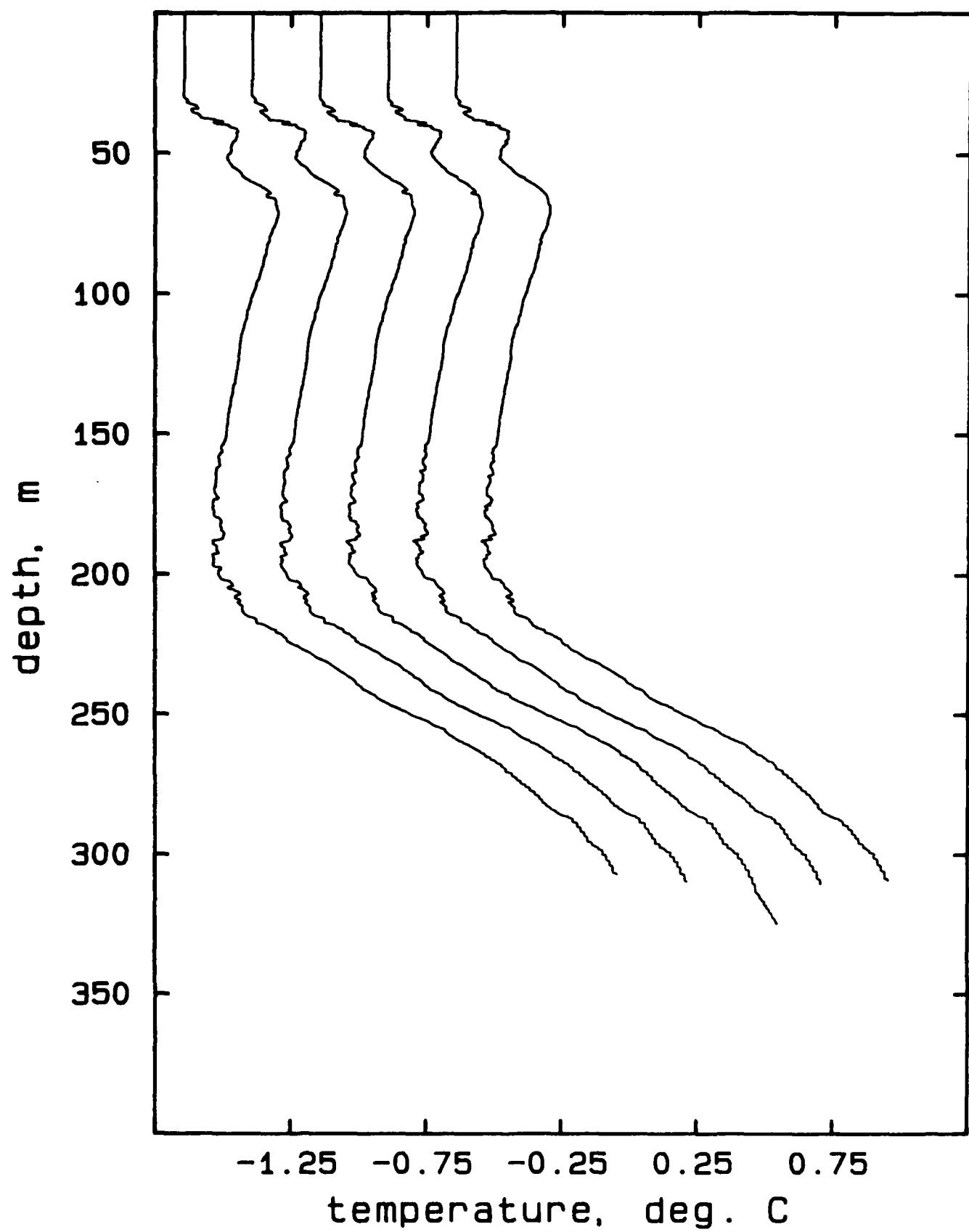
## AR401B, drops 3-7



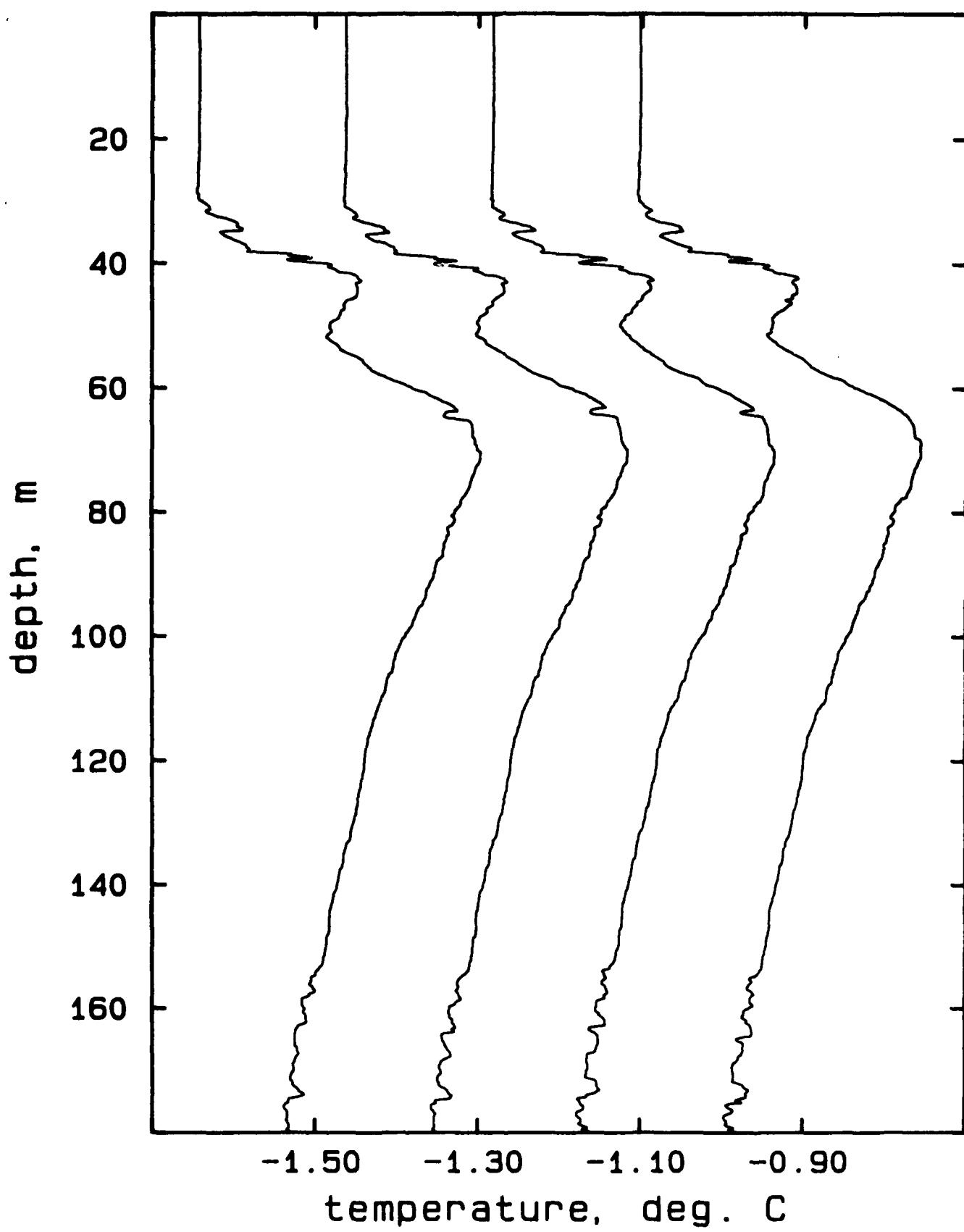
## AR401B, drops 5-8



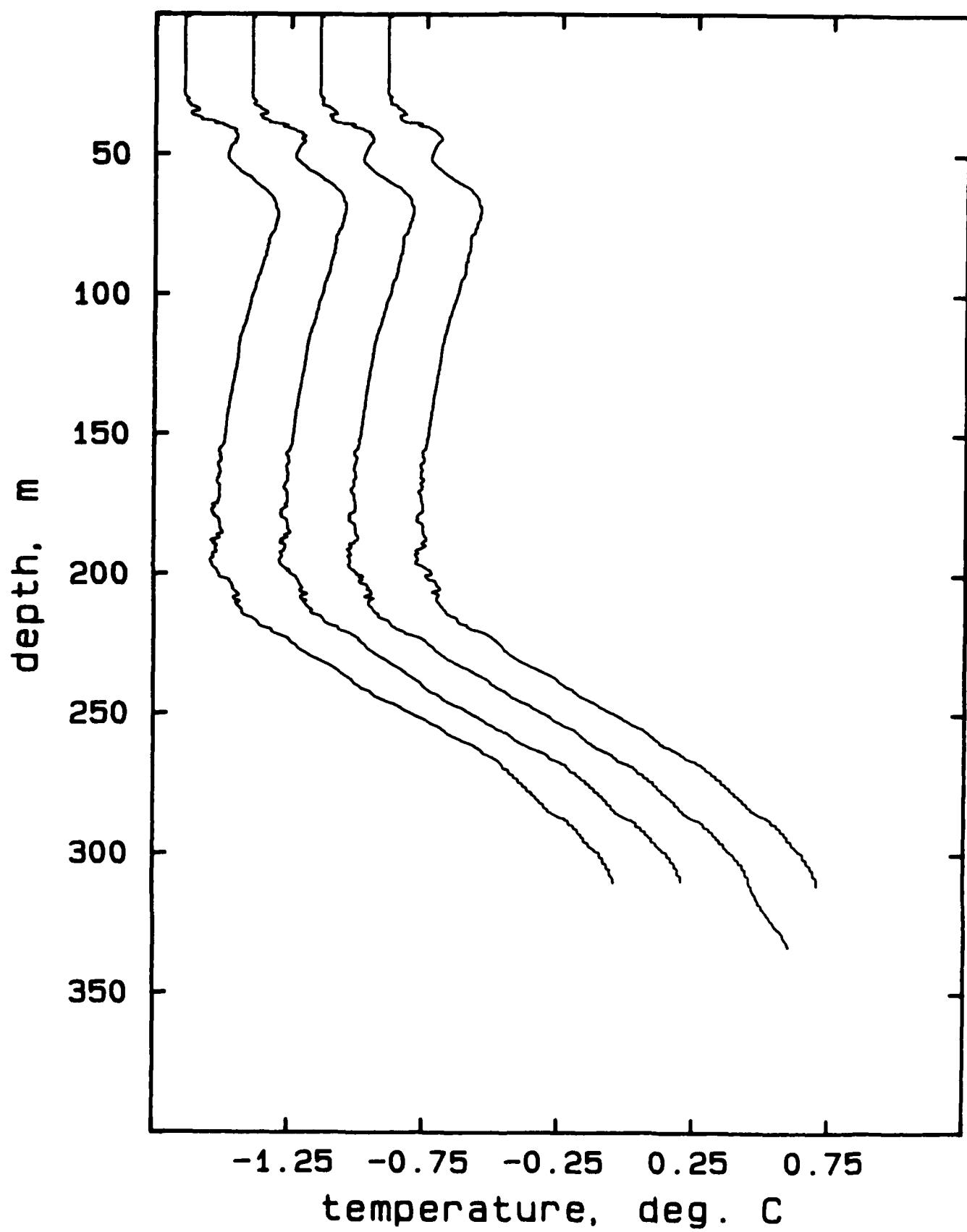
## AR401B, drops 8-12



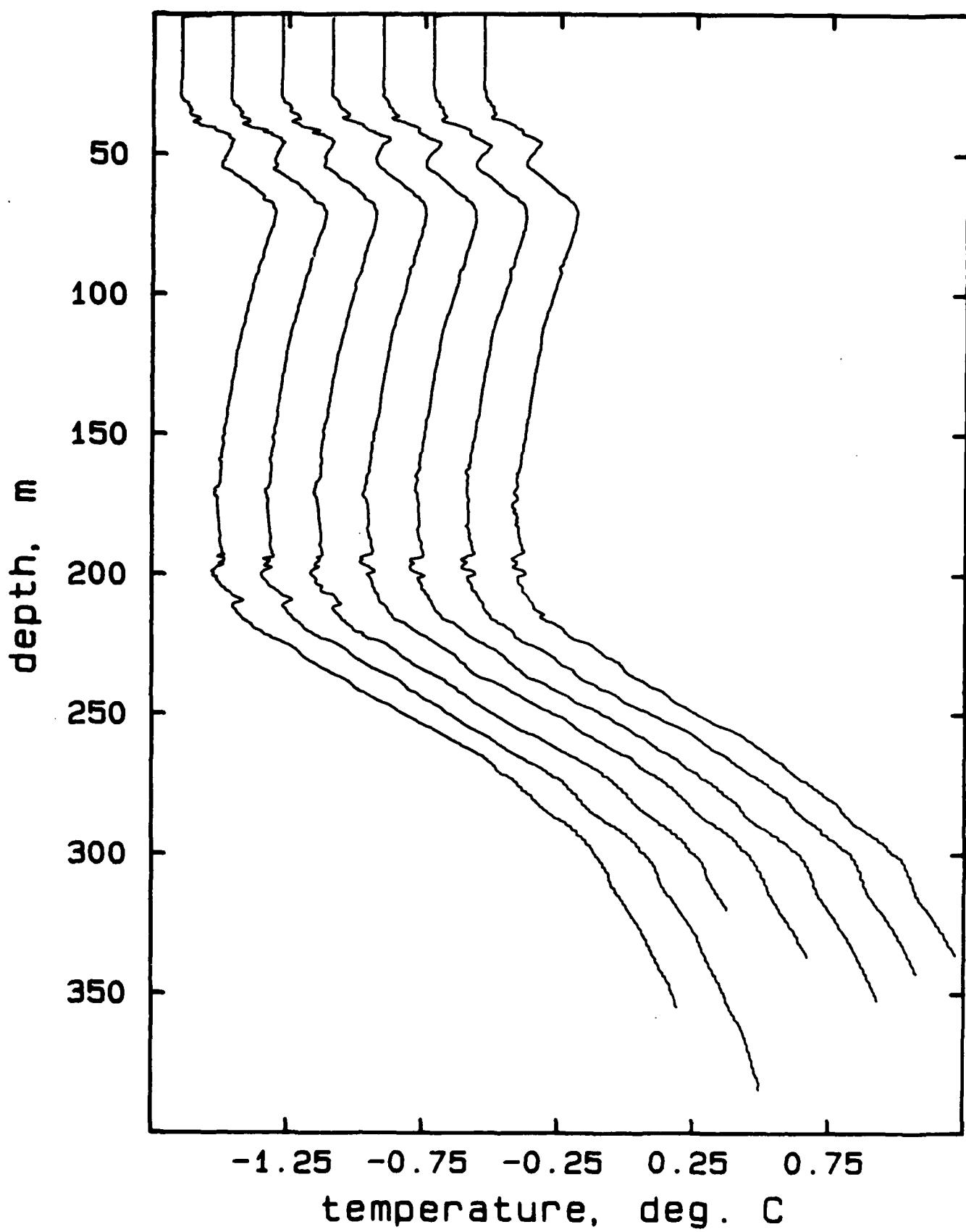
## AR401B, drops 9-12



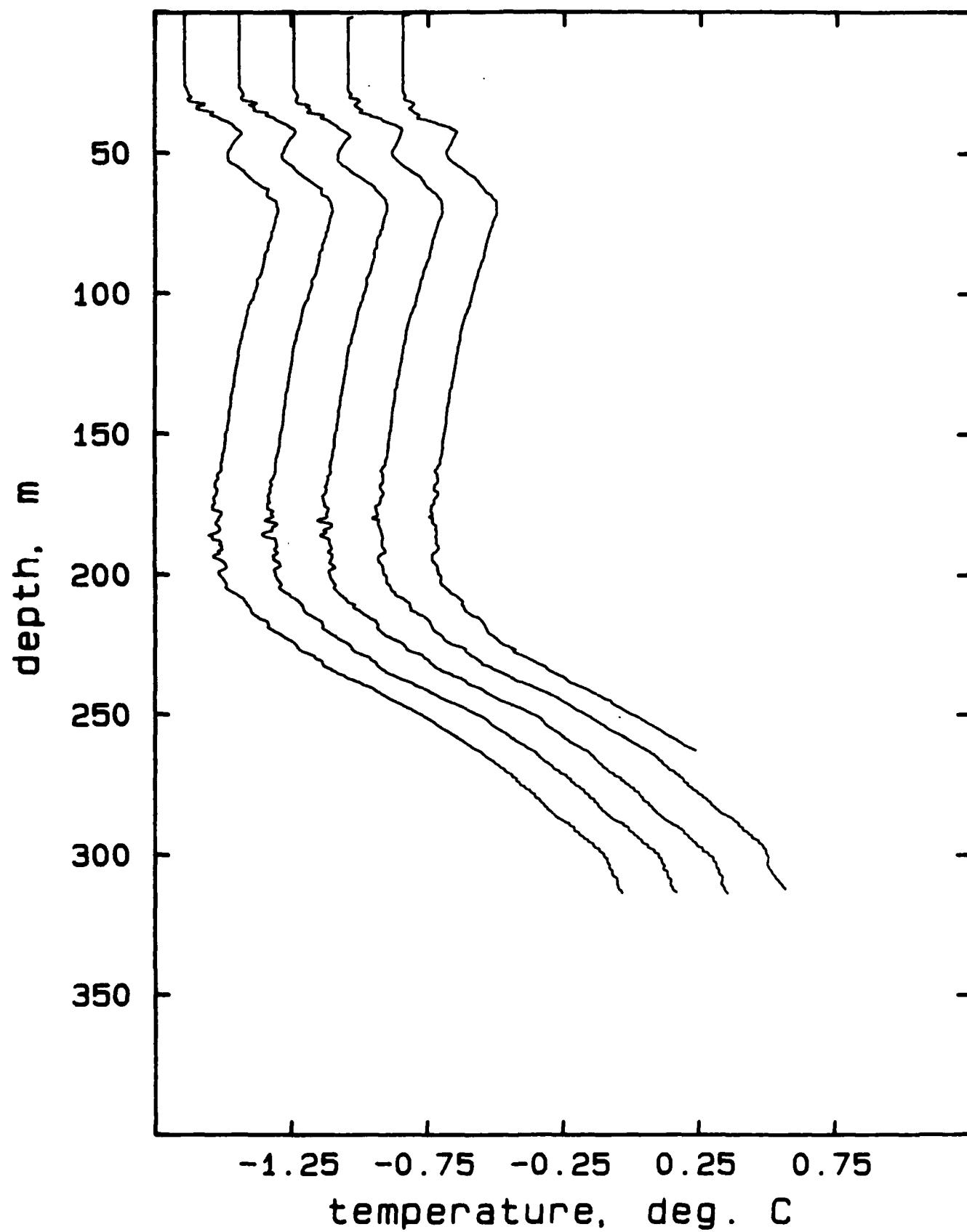
## AR401C, drops 1-4



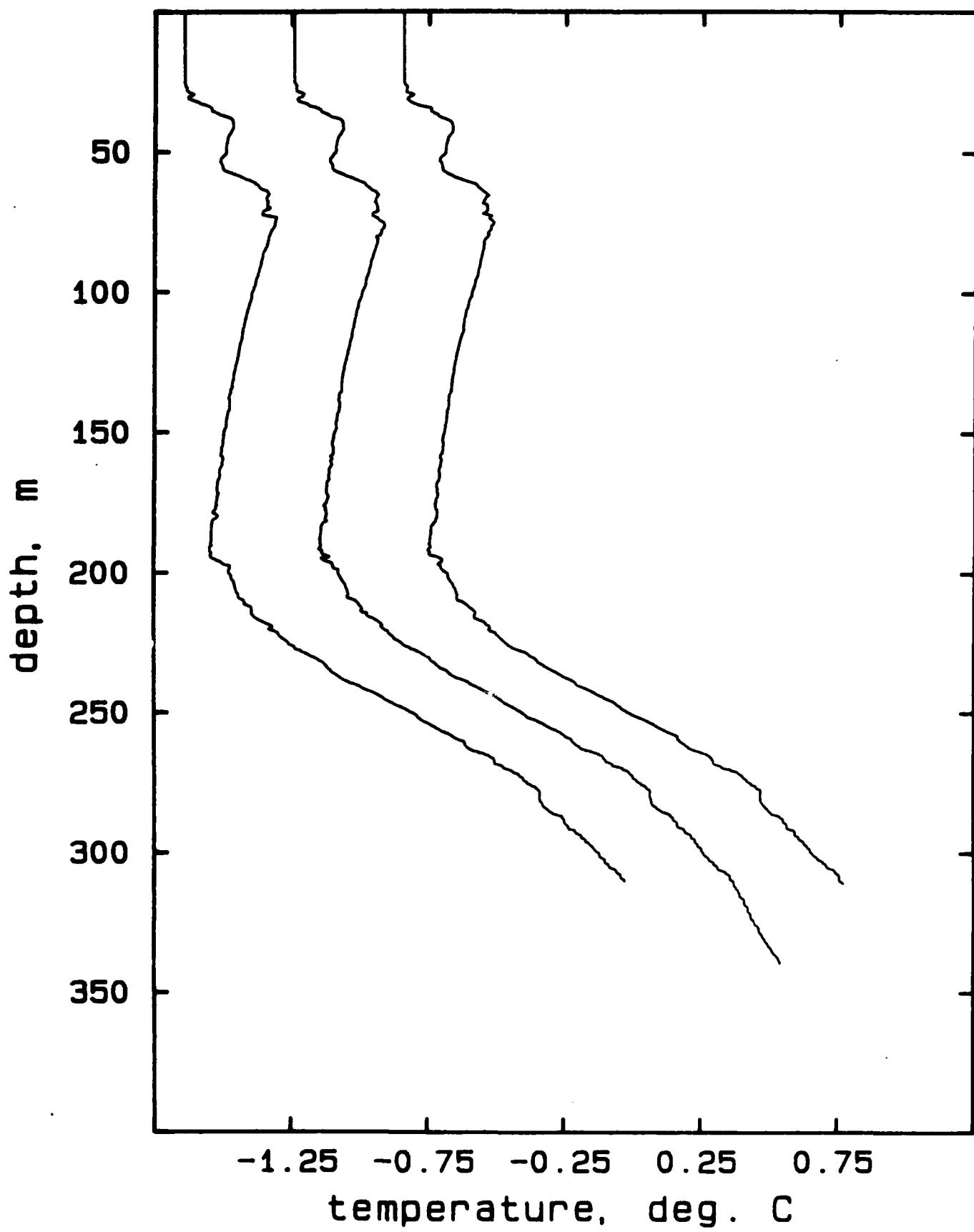
## AR402A, drops 1-7



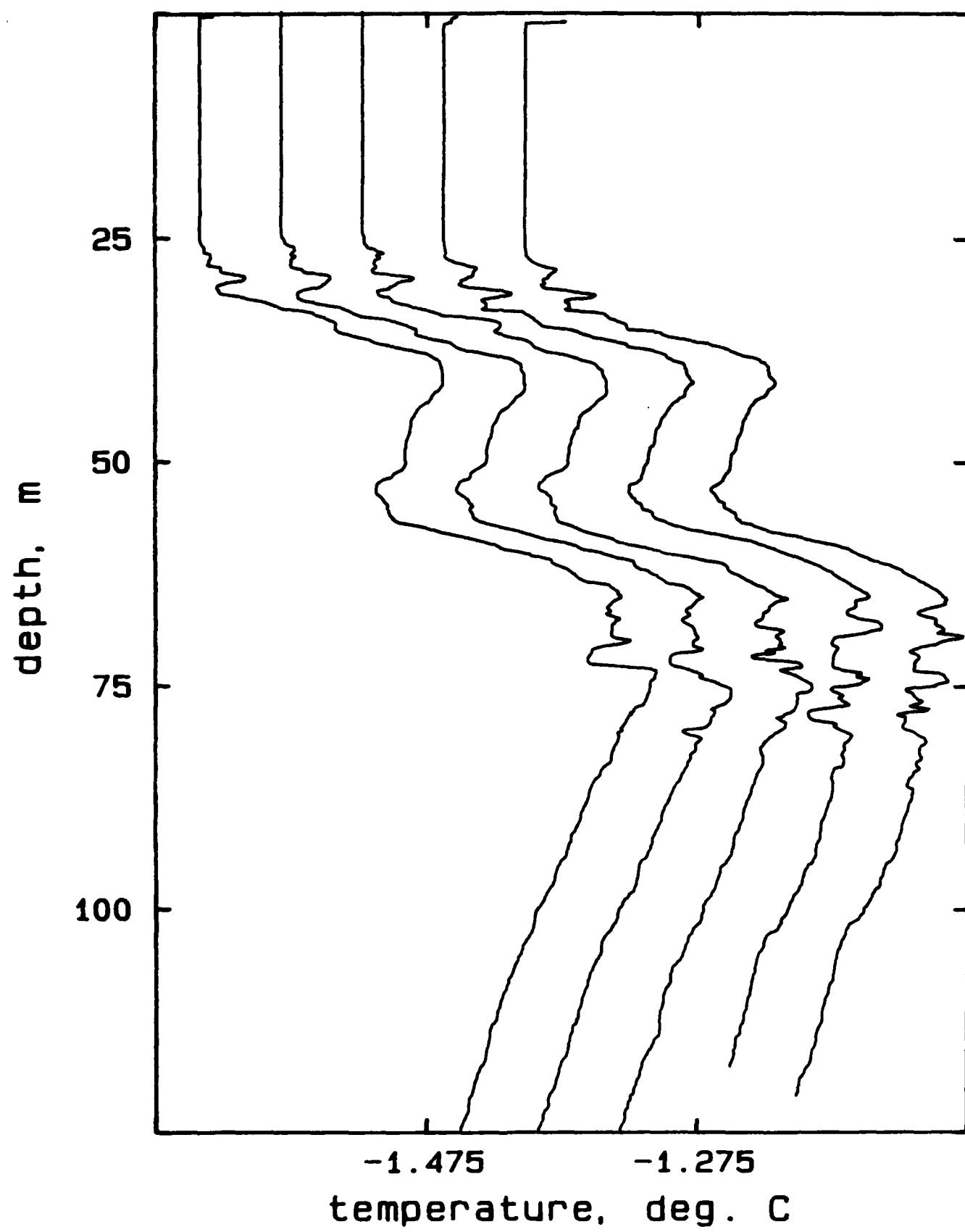
## AR402B, drops 1-3, 6, 7



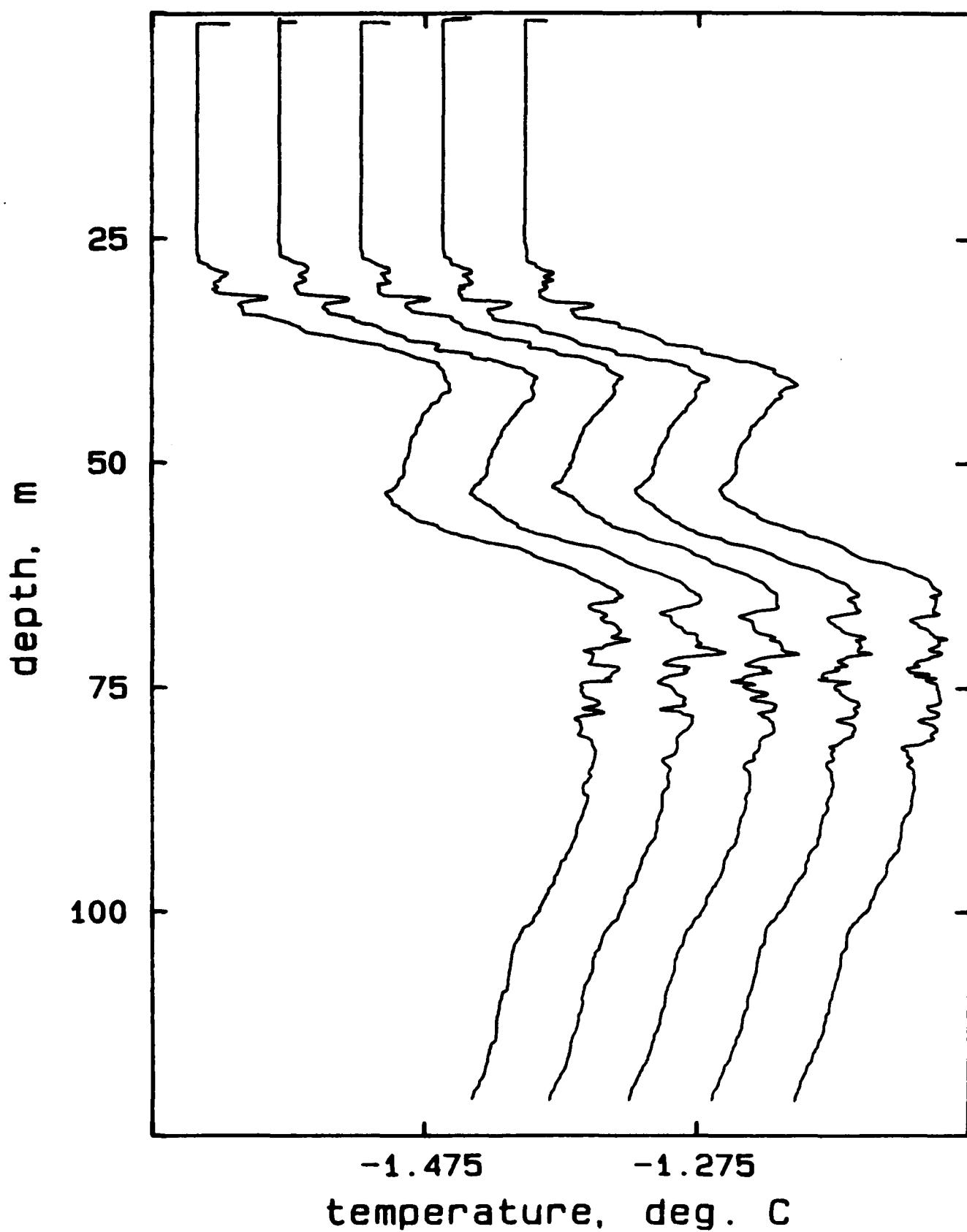
## AR403A, drops 1-3



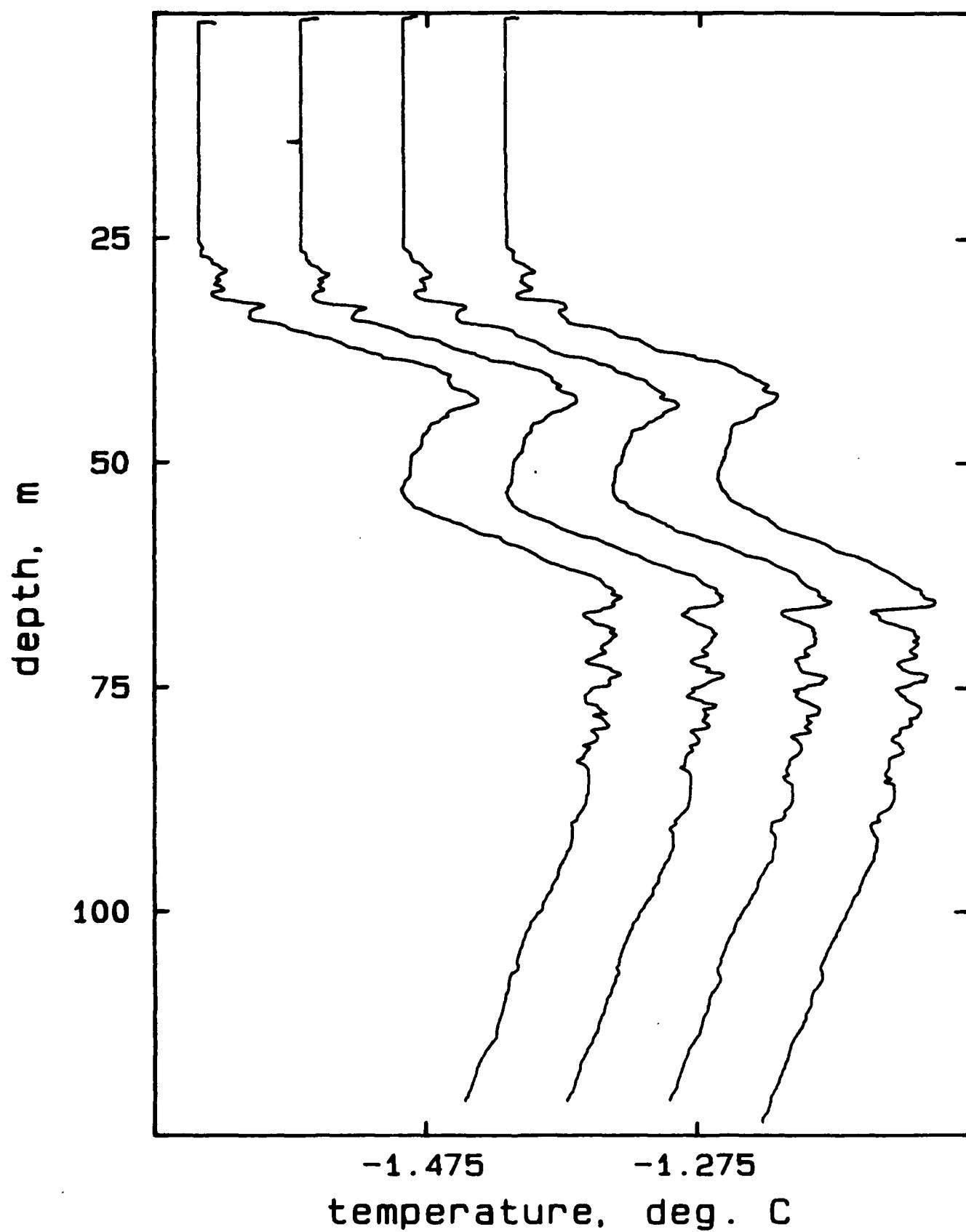
## AR403A, drops 1-5



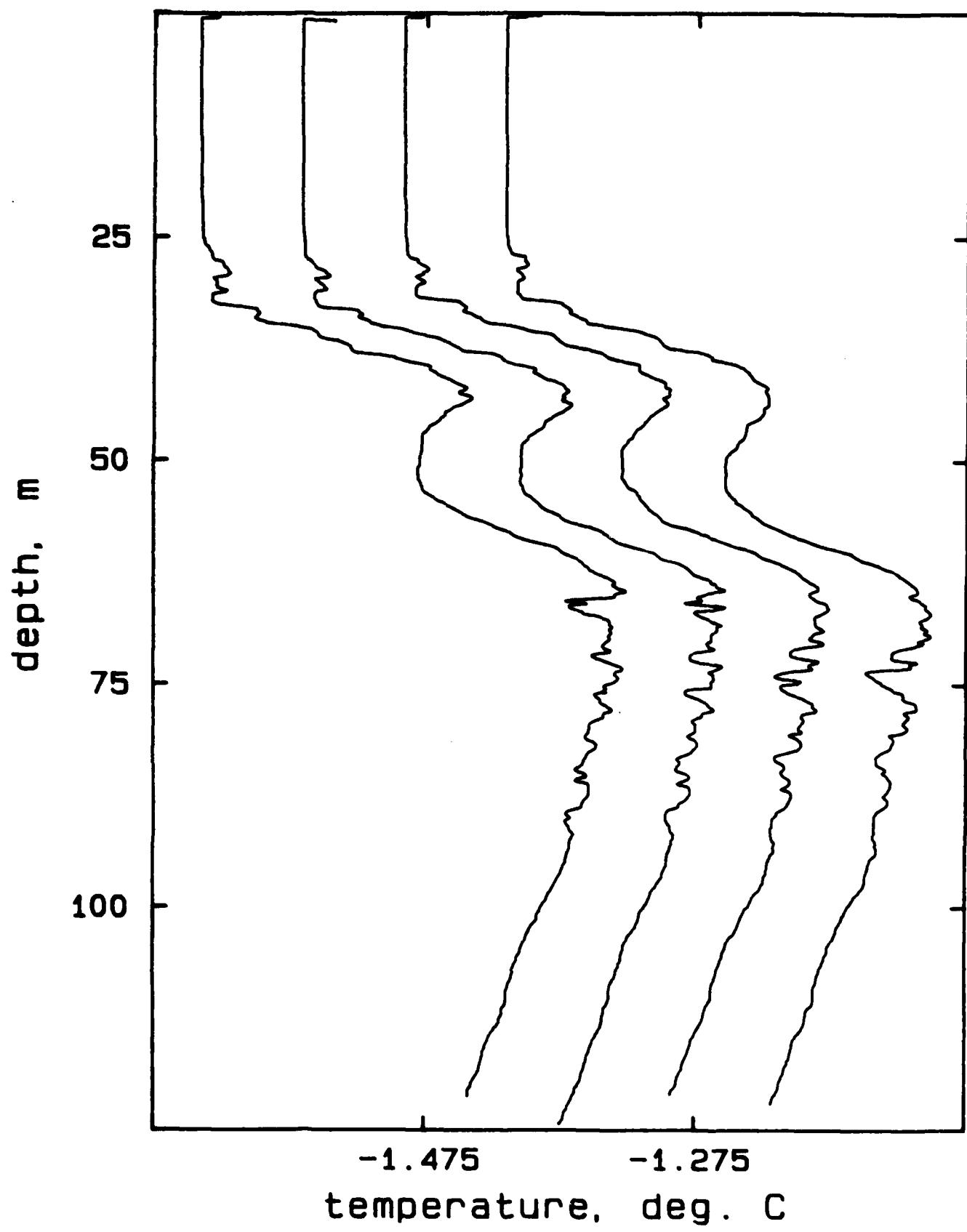
## AR403A, drops 6-10



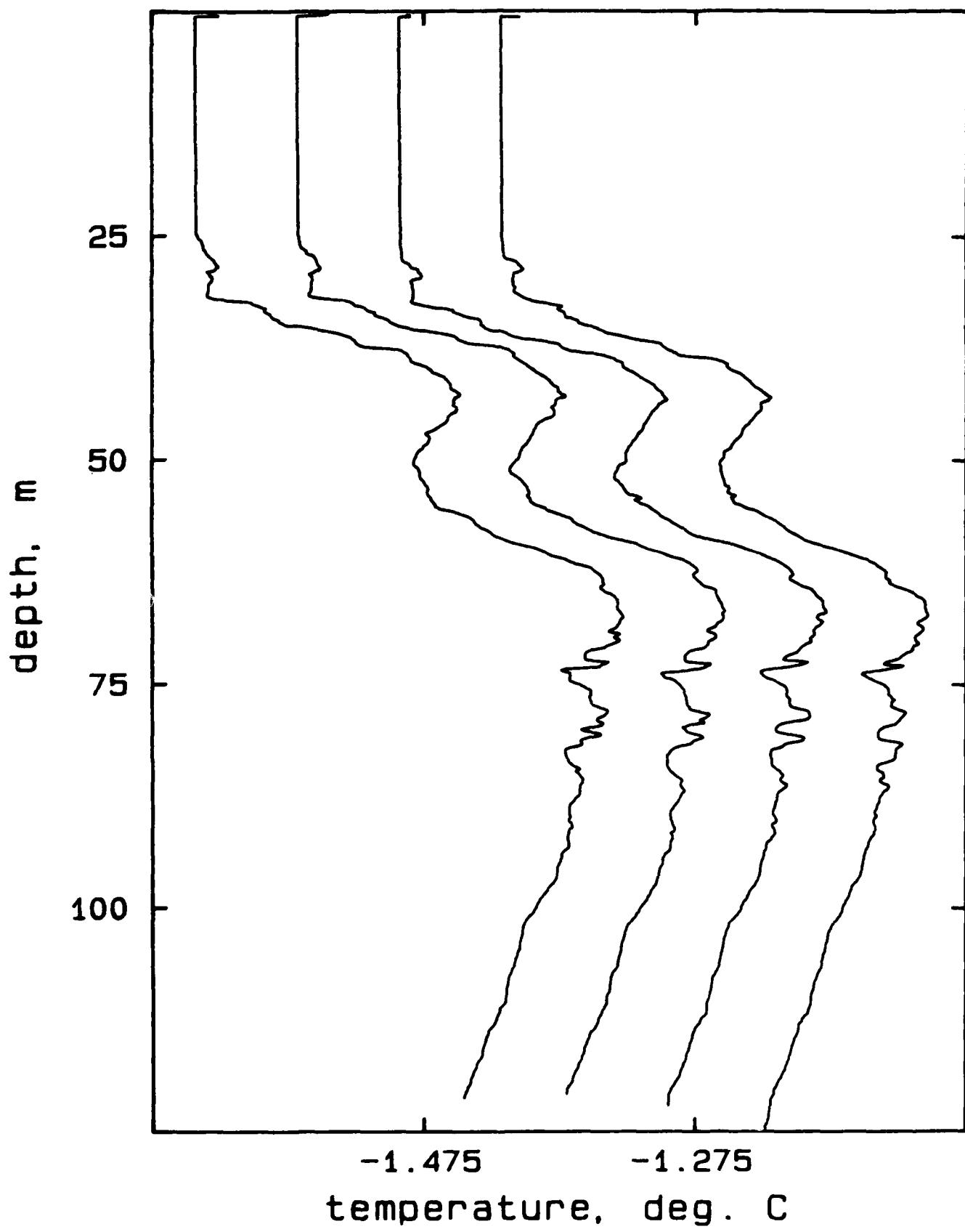
## AR403A, drops 11-14



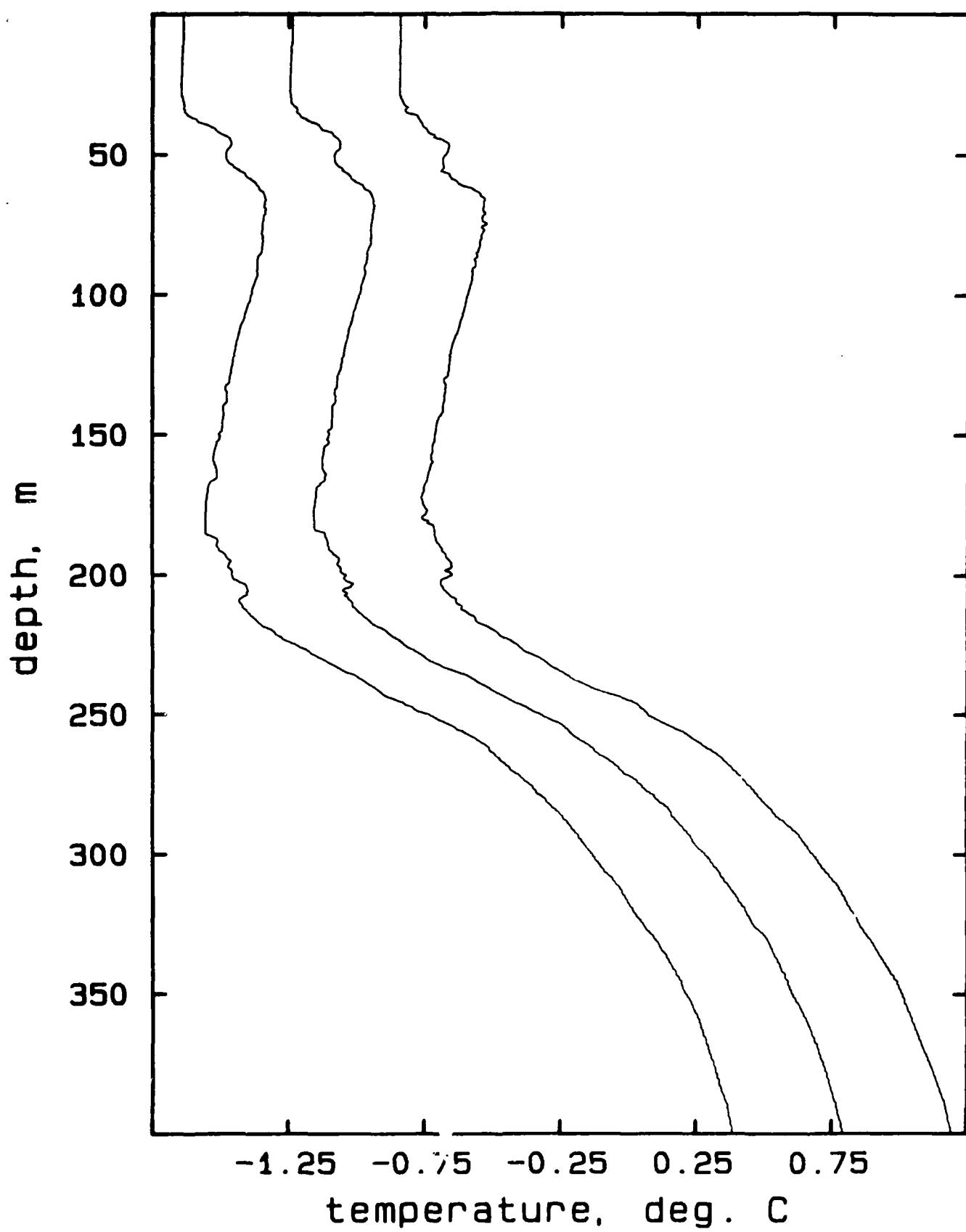
## AR403A, drops 15-18



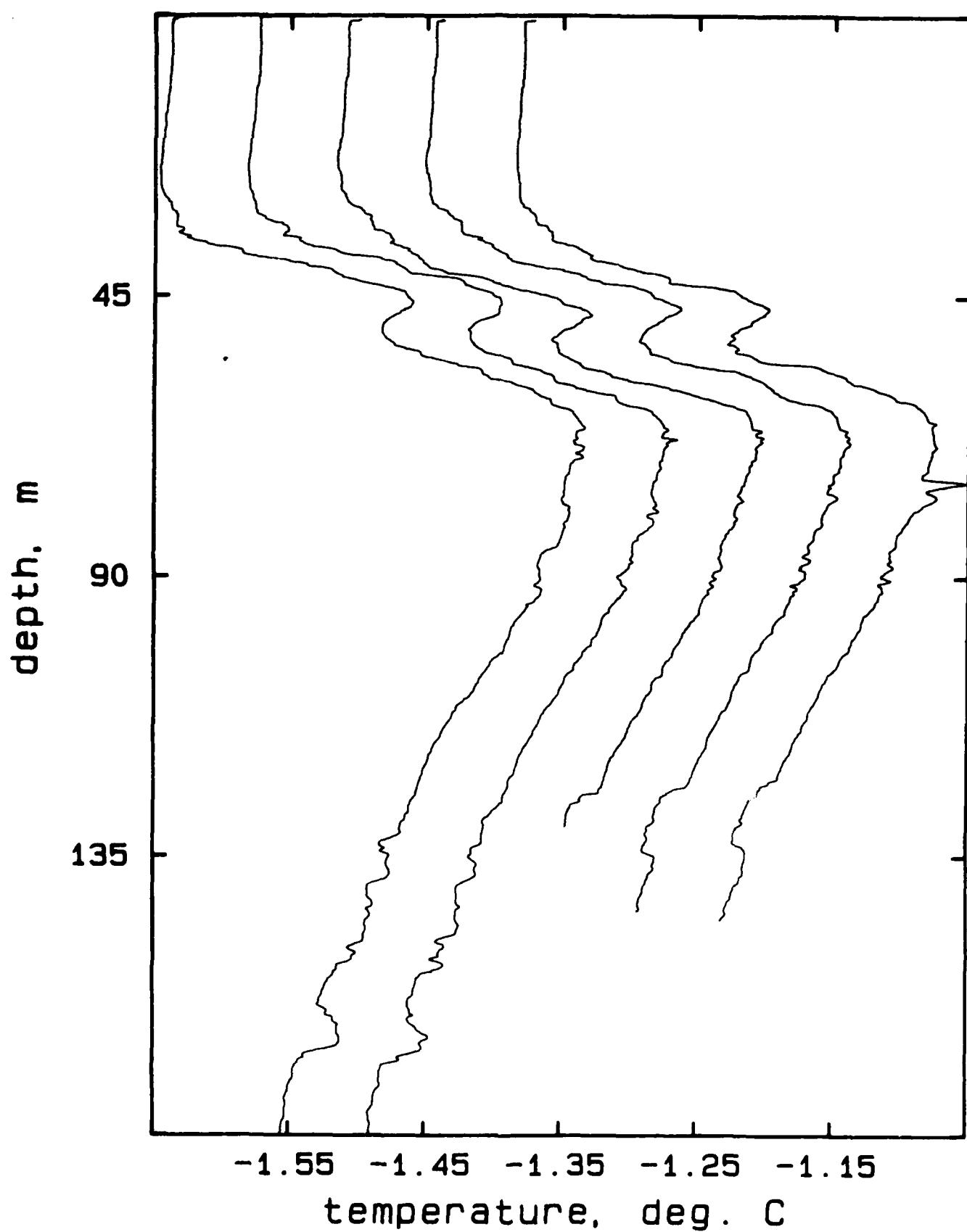
## AR403A, drops 19-22



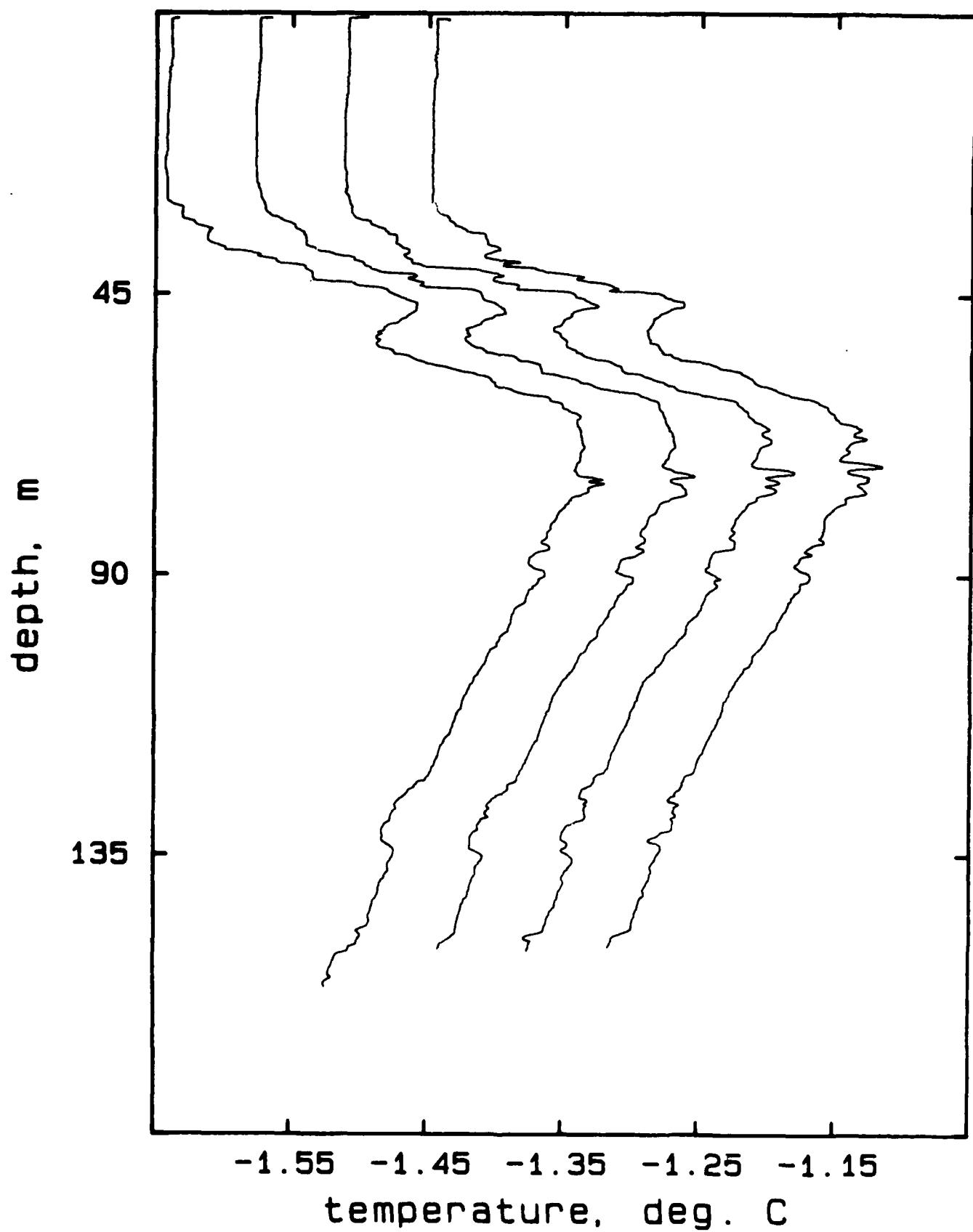
## AR417A, drops 1, 2, 13



## AR417A, drops 1-5



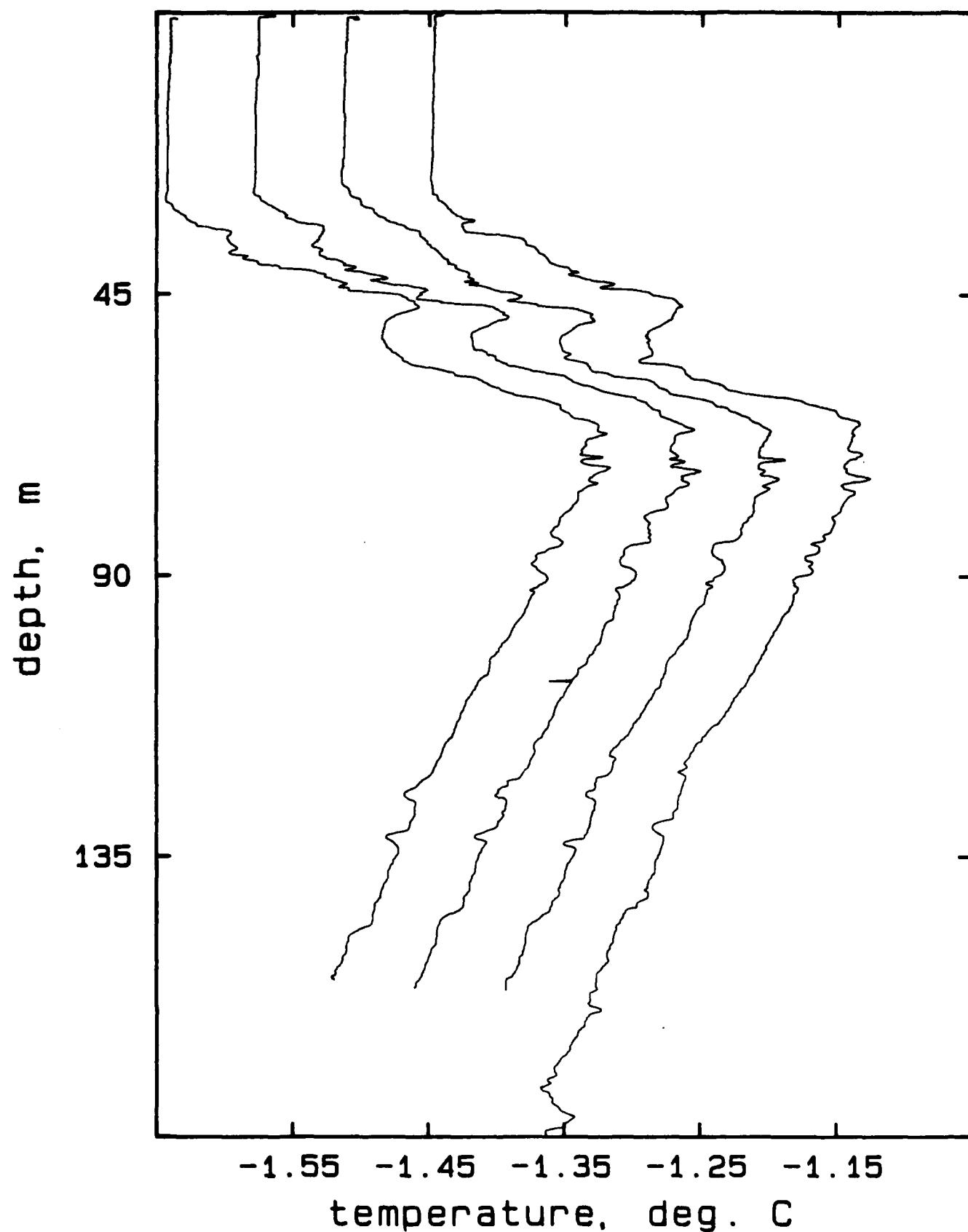
## AR417A, drops 6-9



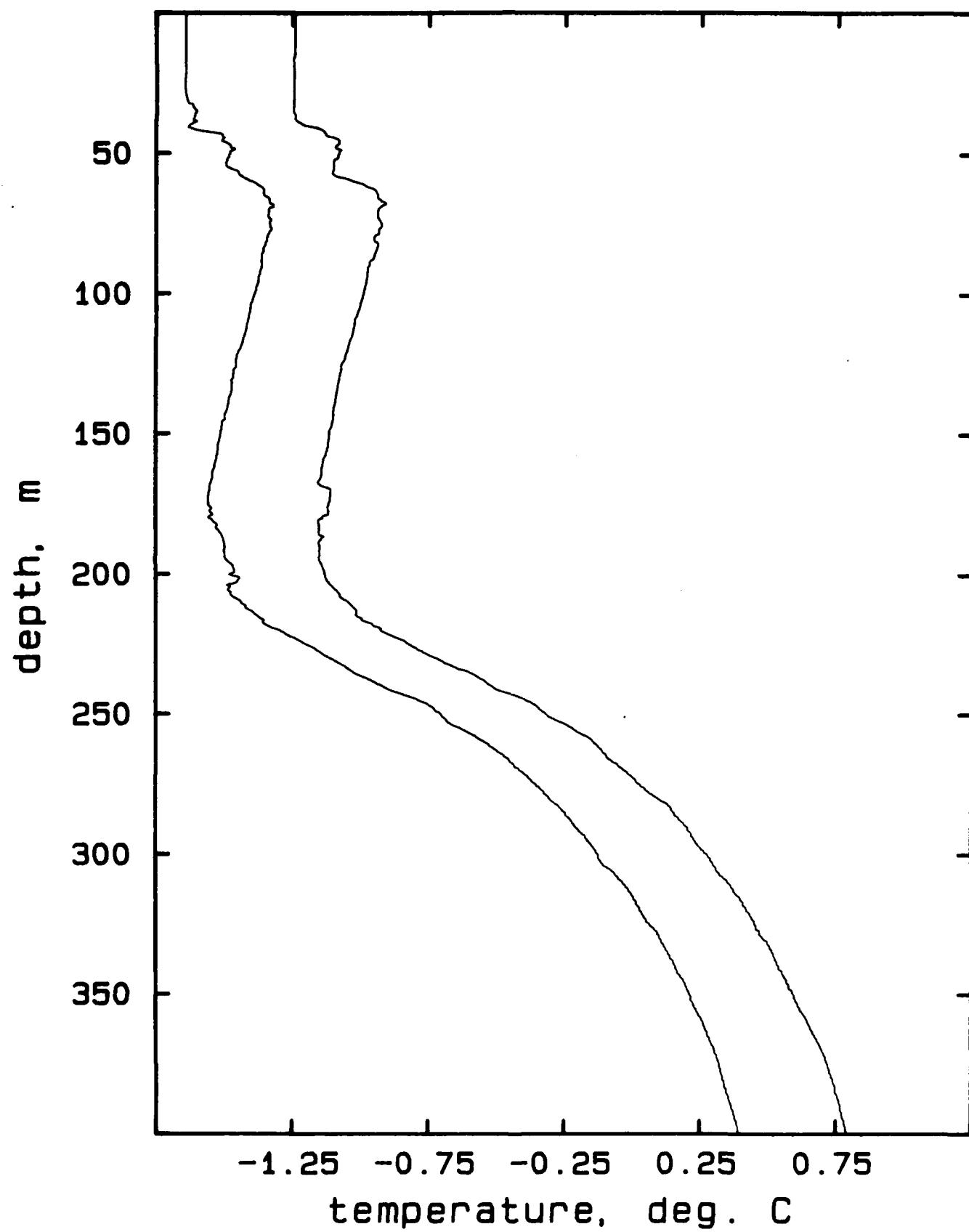
1.0  
0.8  
0.6  
0.4  
0.2  
0.0  
-0.2  
-0.4  
-0.6  
-0.8  
-1.0

100 120 130 140 150 160 170 180 190 200

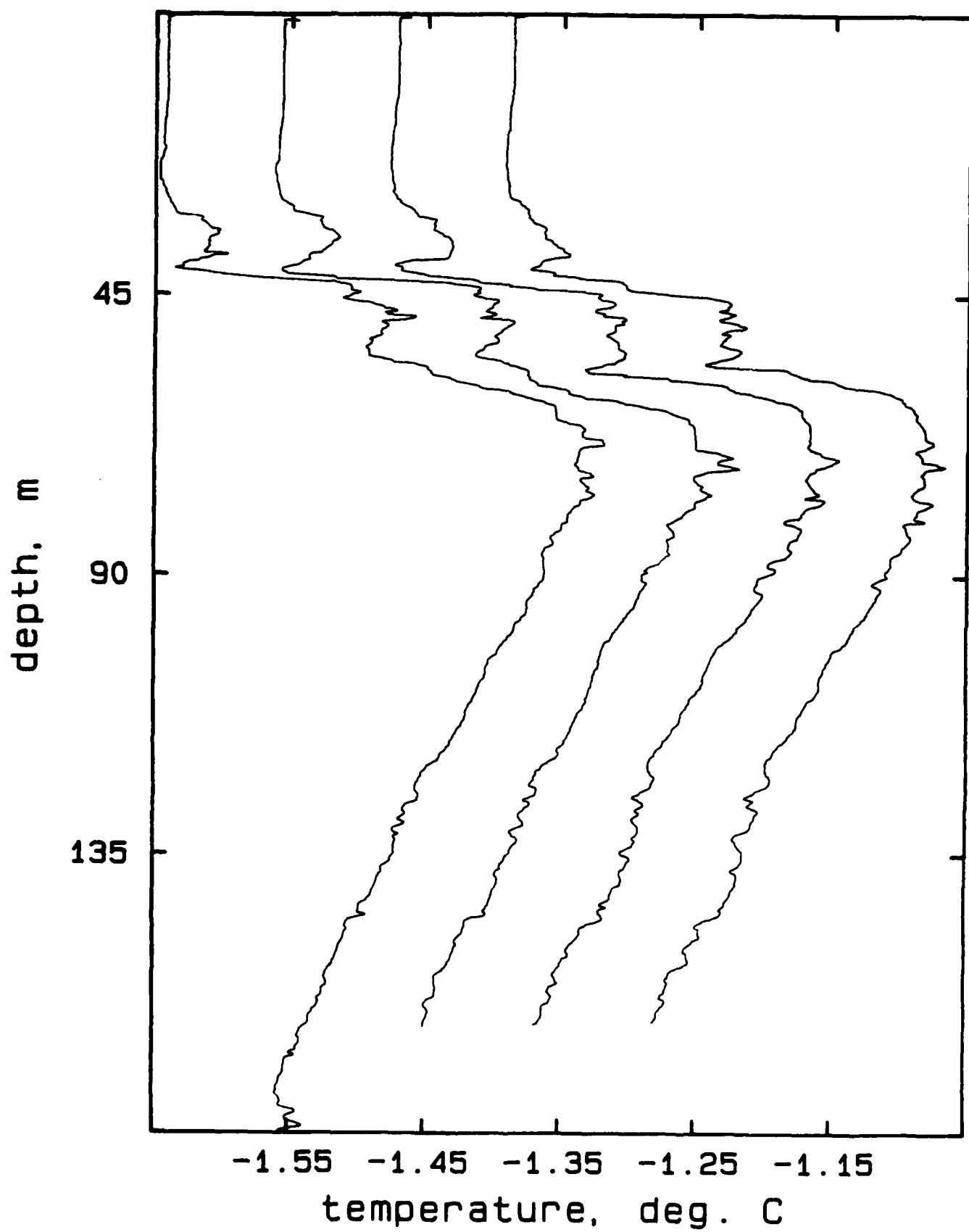
## AR417A, drops 10-13



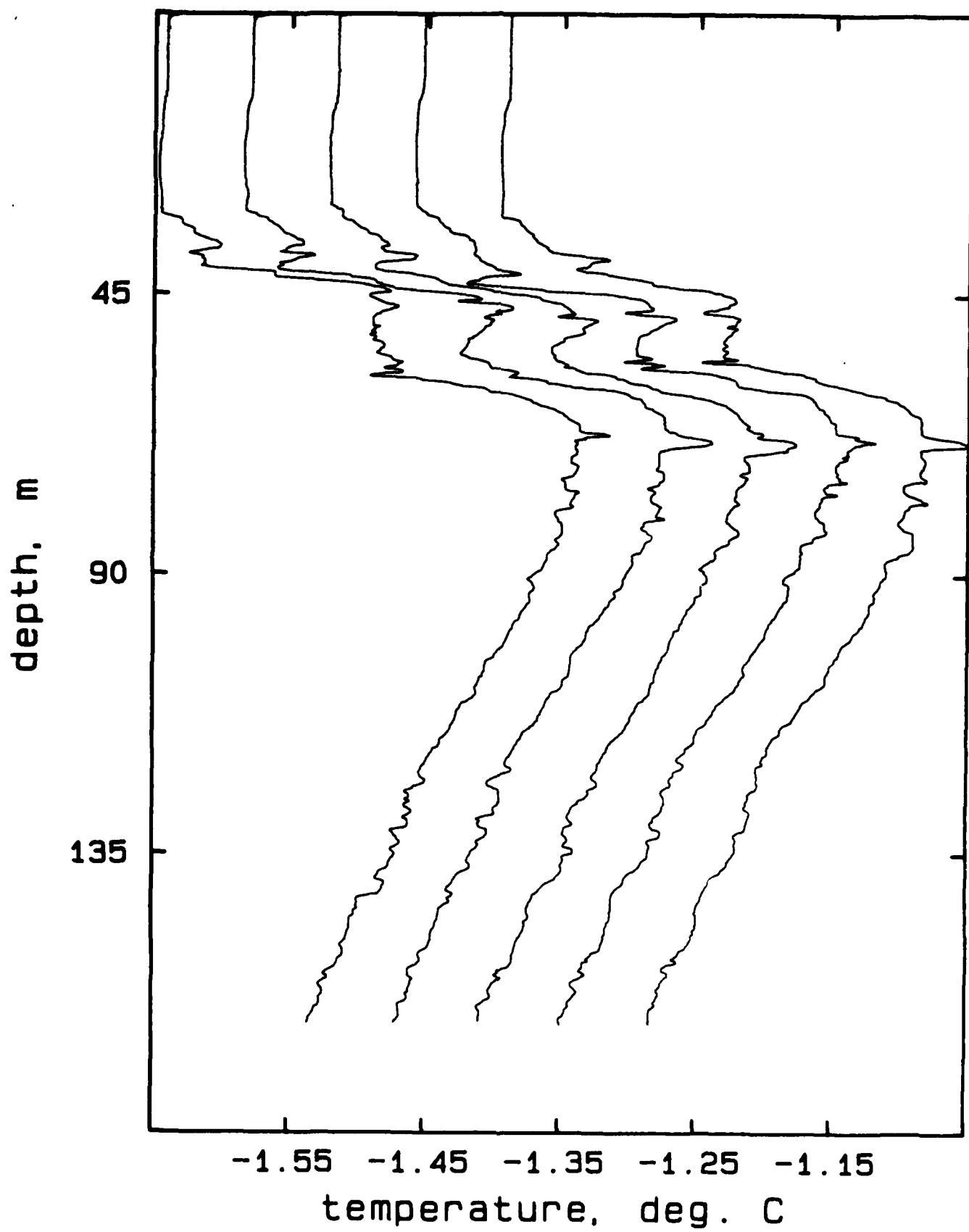
## AR417B, drops 1, 13



## AR417B, drops 1-4

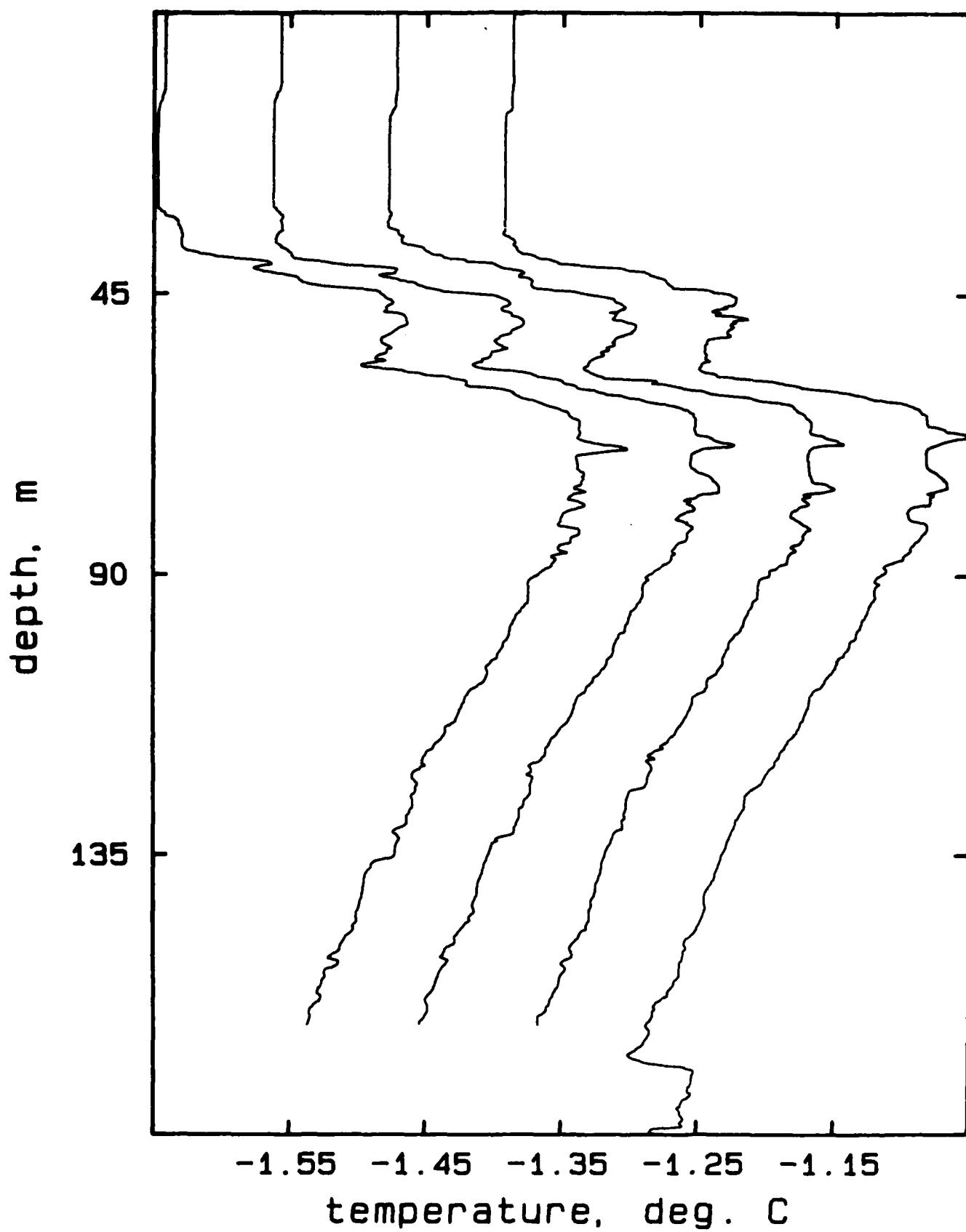


## AR417B, drops 5-9

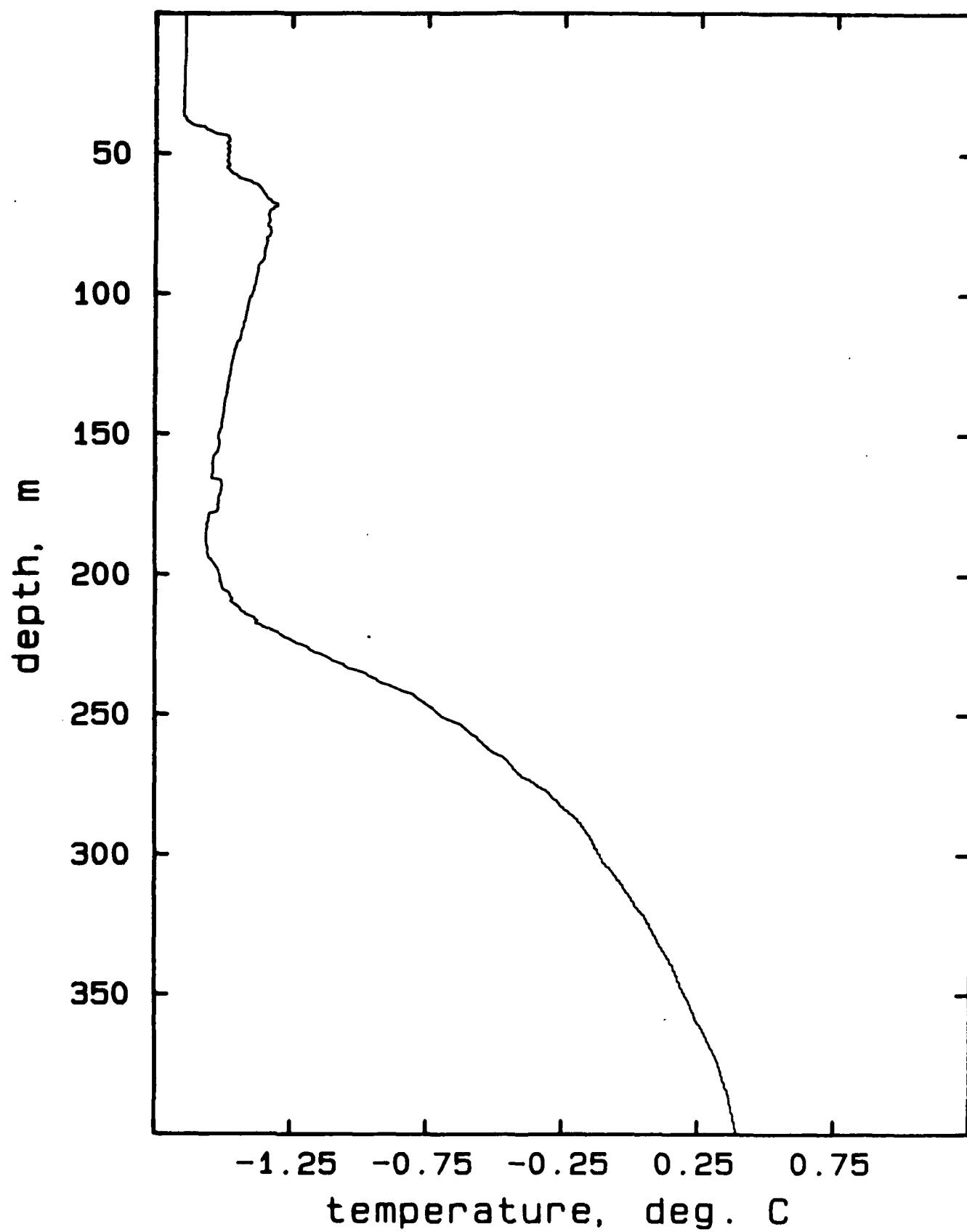


180

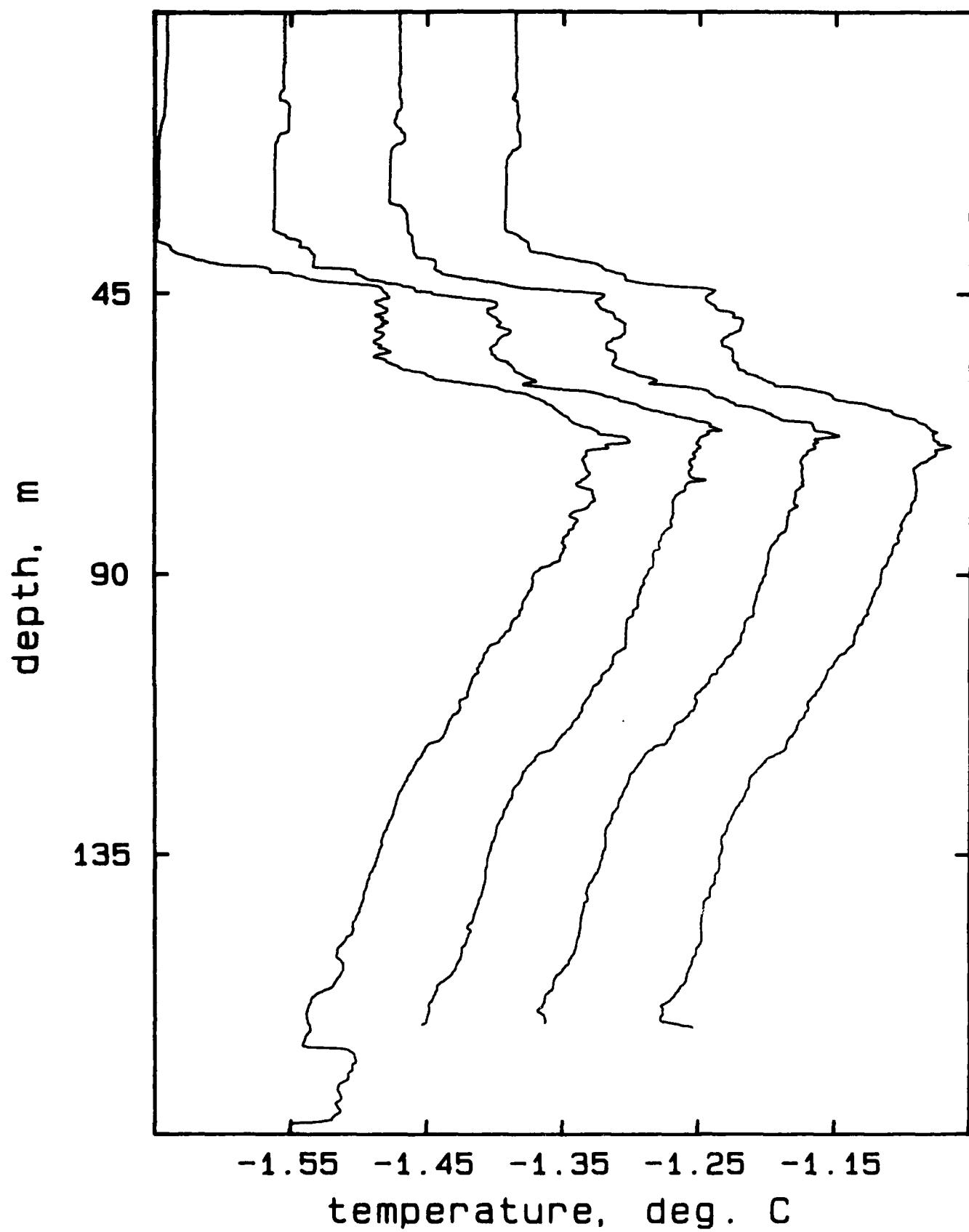
## AR417B, drops 10-13



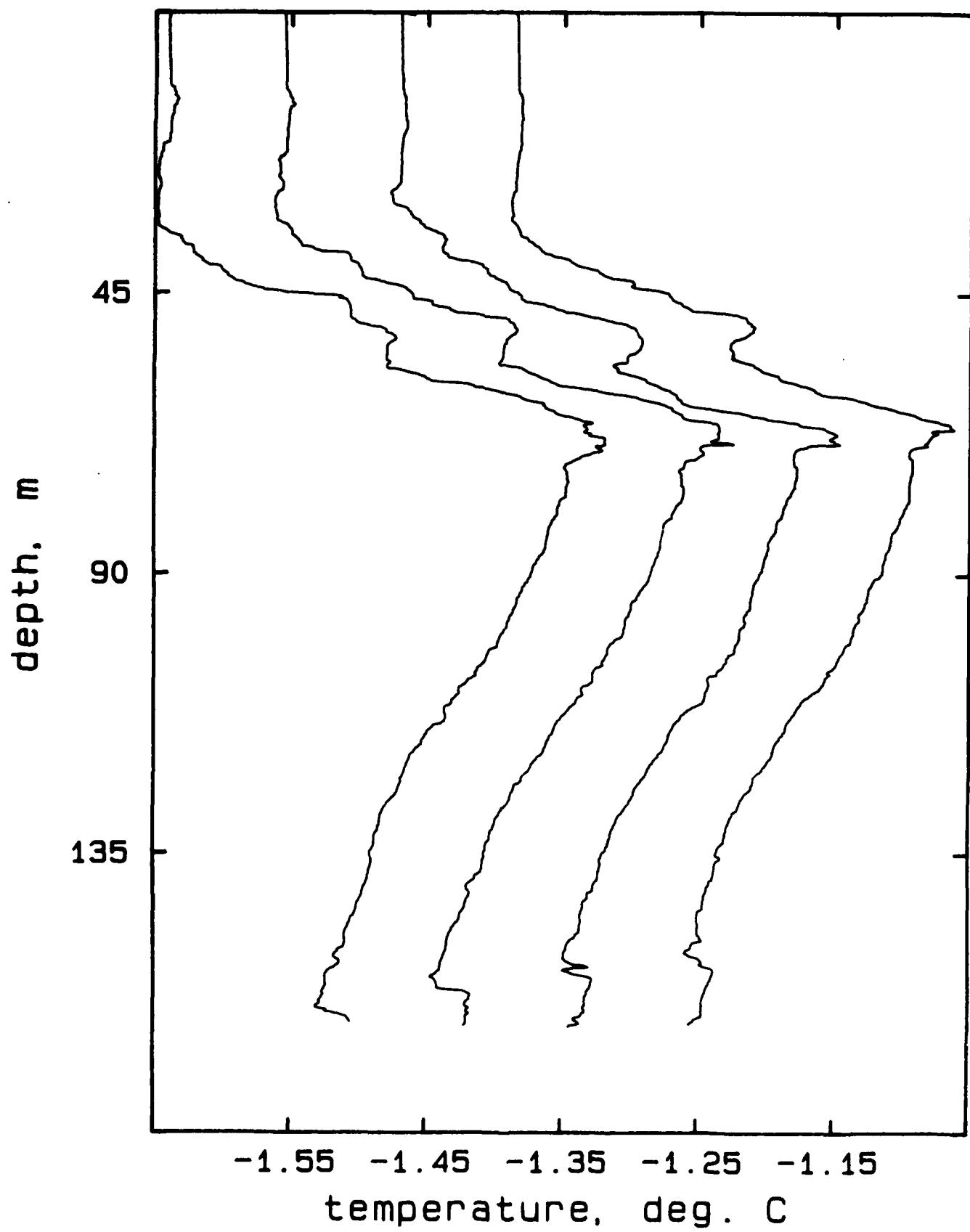
## AR417C, drop 1



## AR417C, drops 1-4

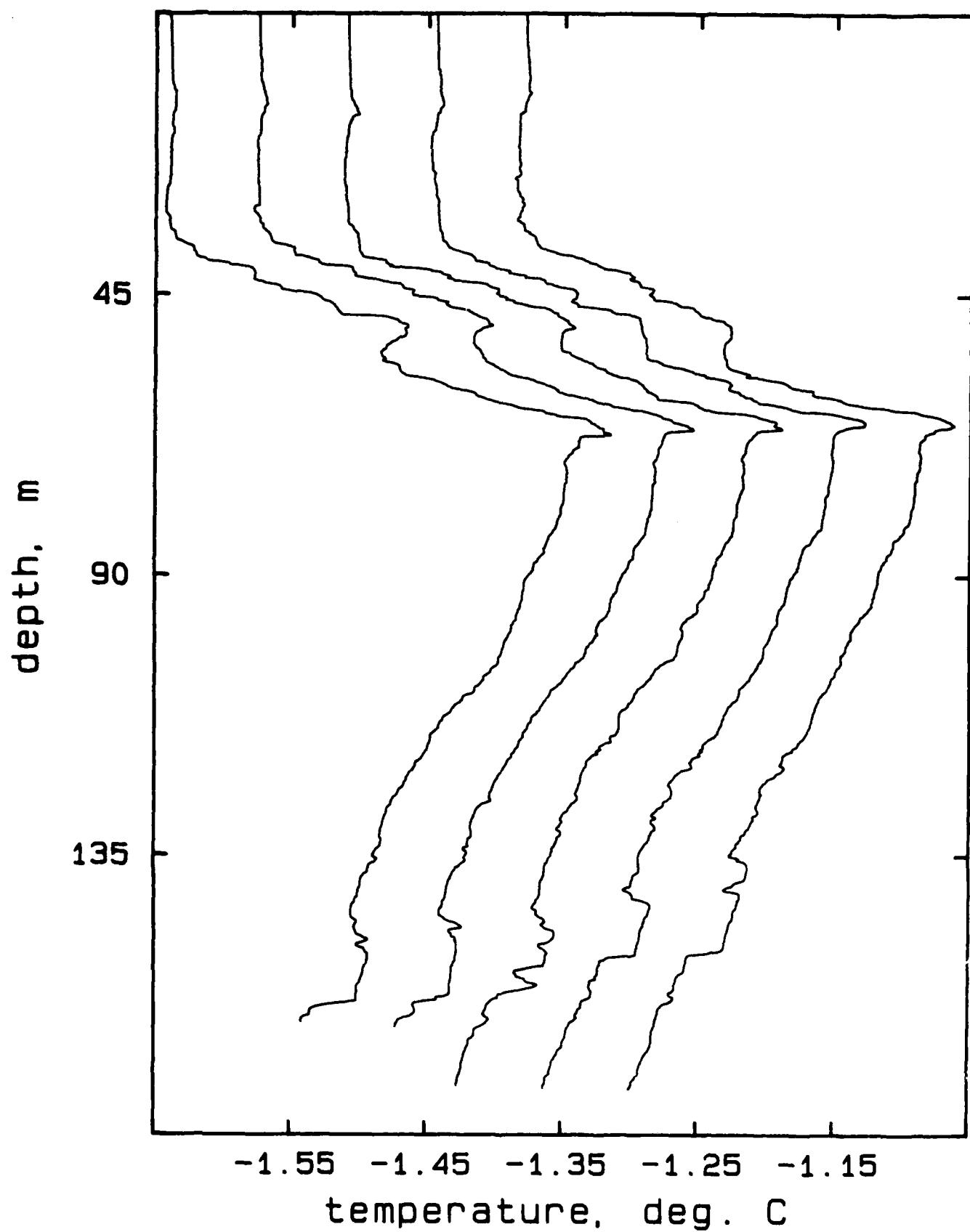


## AR417C, drops 5-8

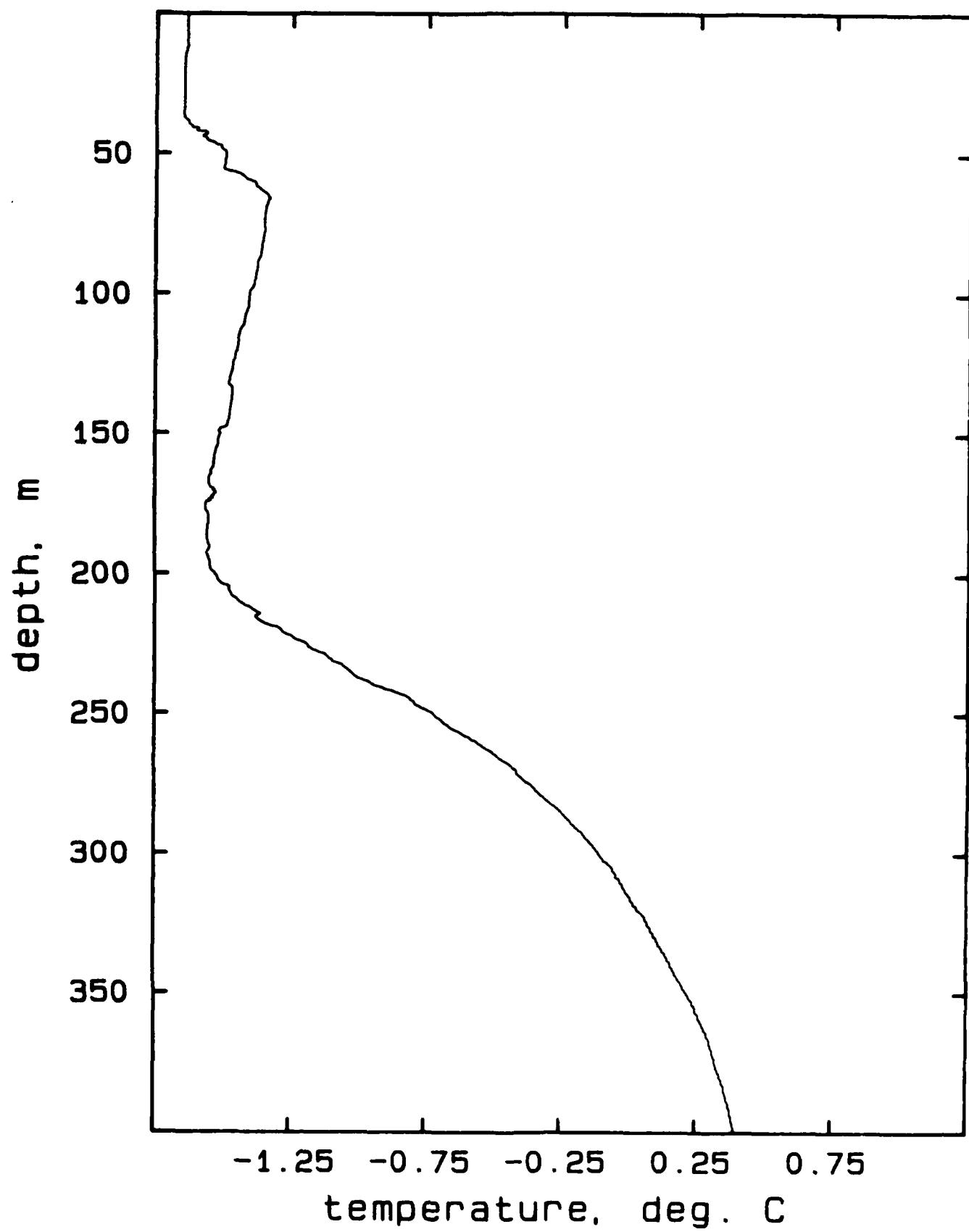


45 90 135 183 172 162 152 142 132 122 112 102 92 82 72 62 52 42 32 22 12 1 183 172 162 152 142 132 122 112 102 92 82 72 62 52 42 32 22

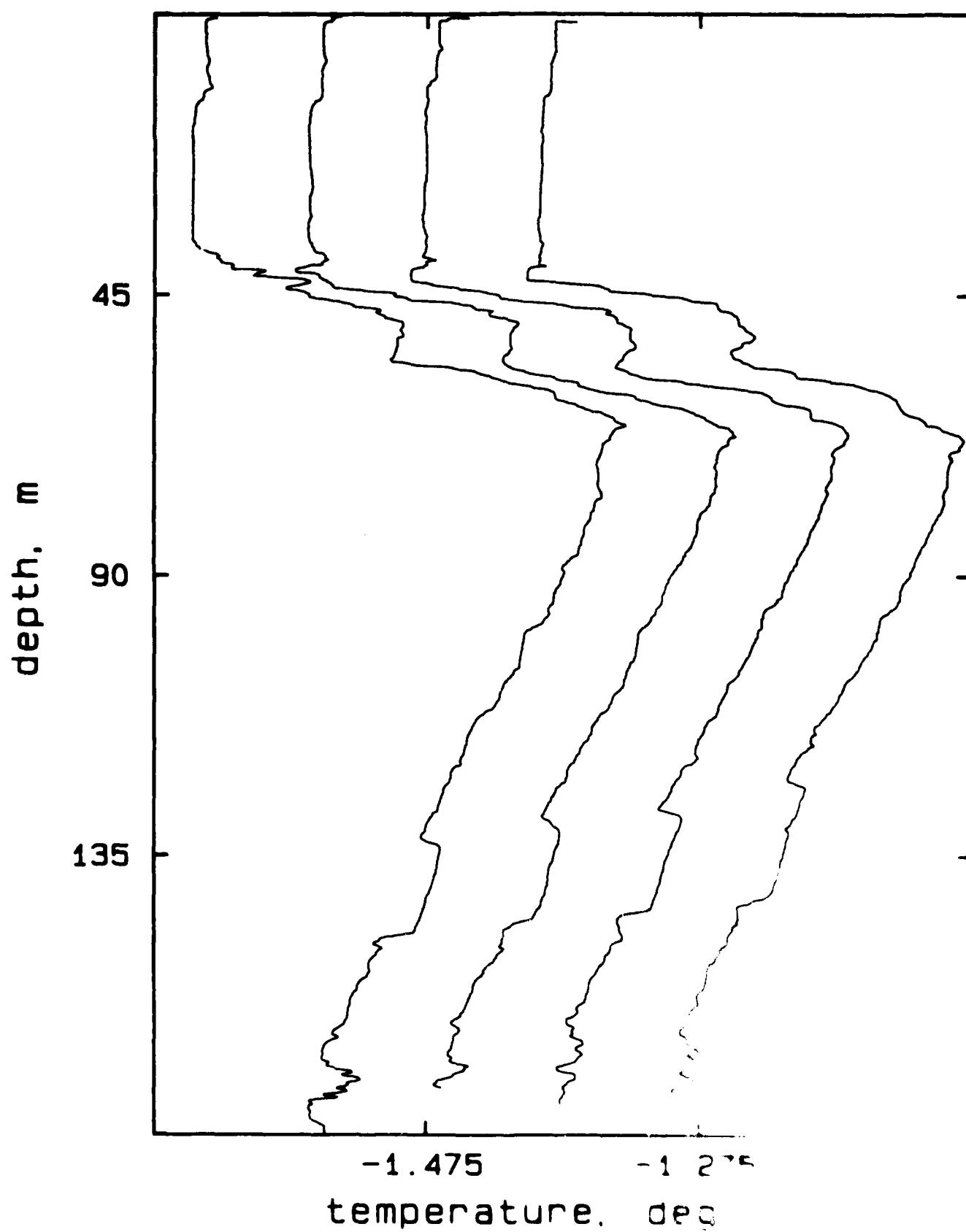
## AR417C, drops 9-13



## AR417D, drop 1



## AR417D, drops 1-4



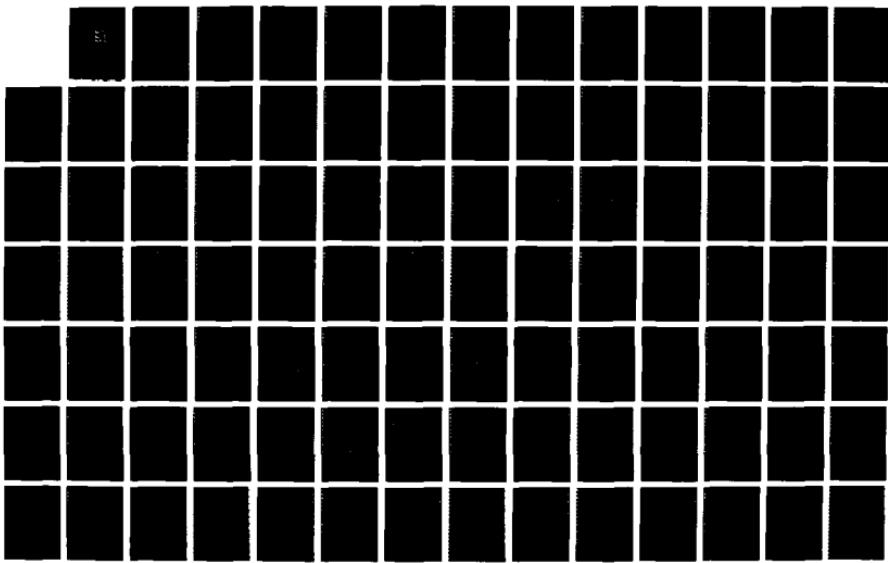
AD-A181 764

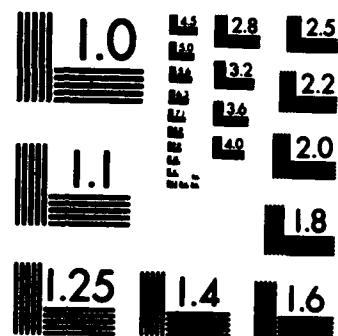
MICROSTRUCTURE CASTS DURING AIMEX (ARCTIC INTERNAL WAVE 3/5  
EXPERIMENT) A SUMMARY (U) OREGON STATE UNIV CORVALLIS  
COLL. OF OCEANOGRAPHY T M DILLON ET AL. APR 85 DATA-122  
N00014-84-C-0216 .

F/G 8/3

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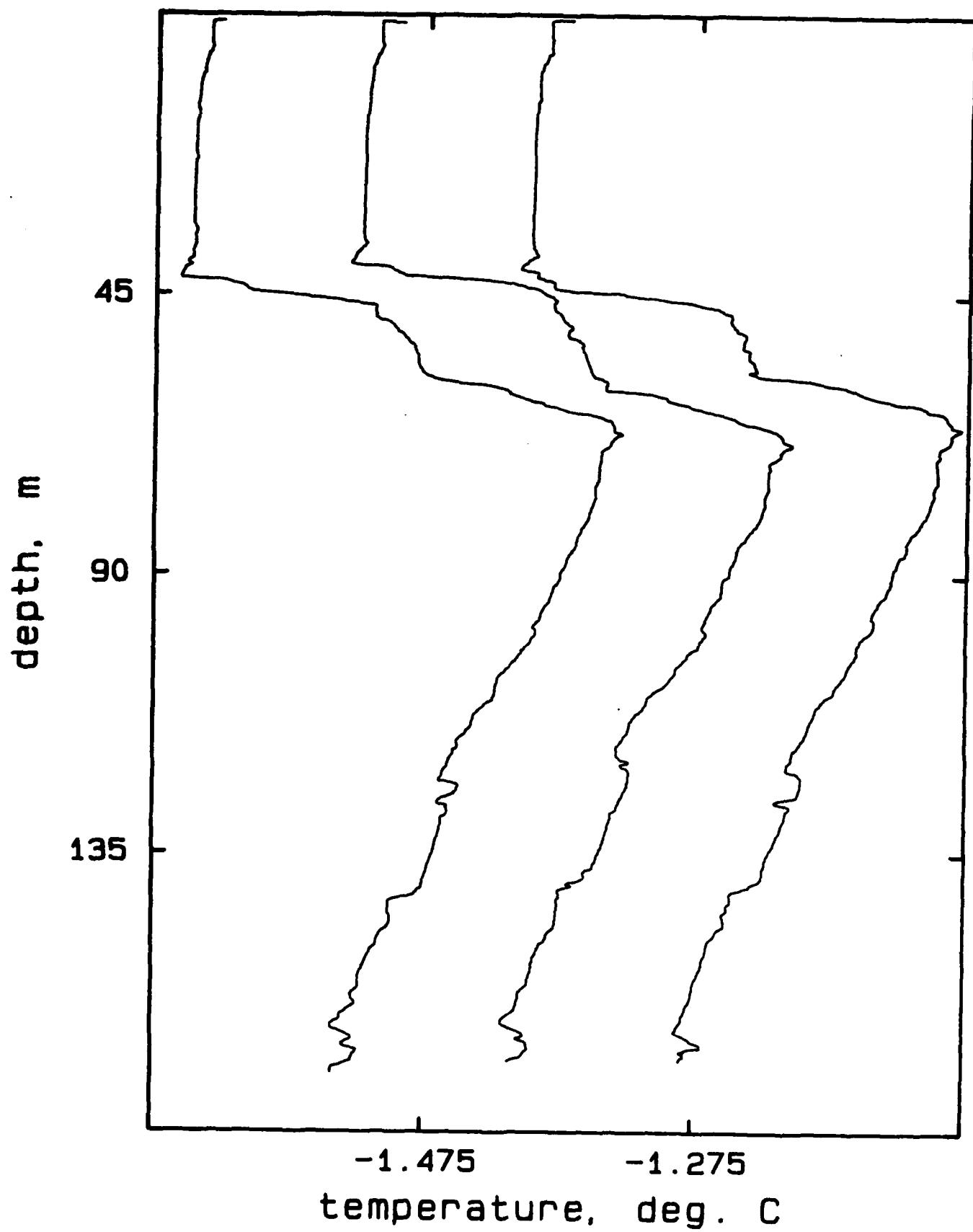
UNCLASSIFIED



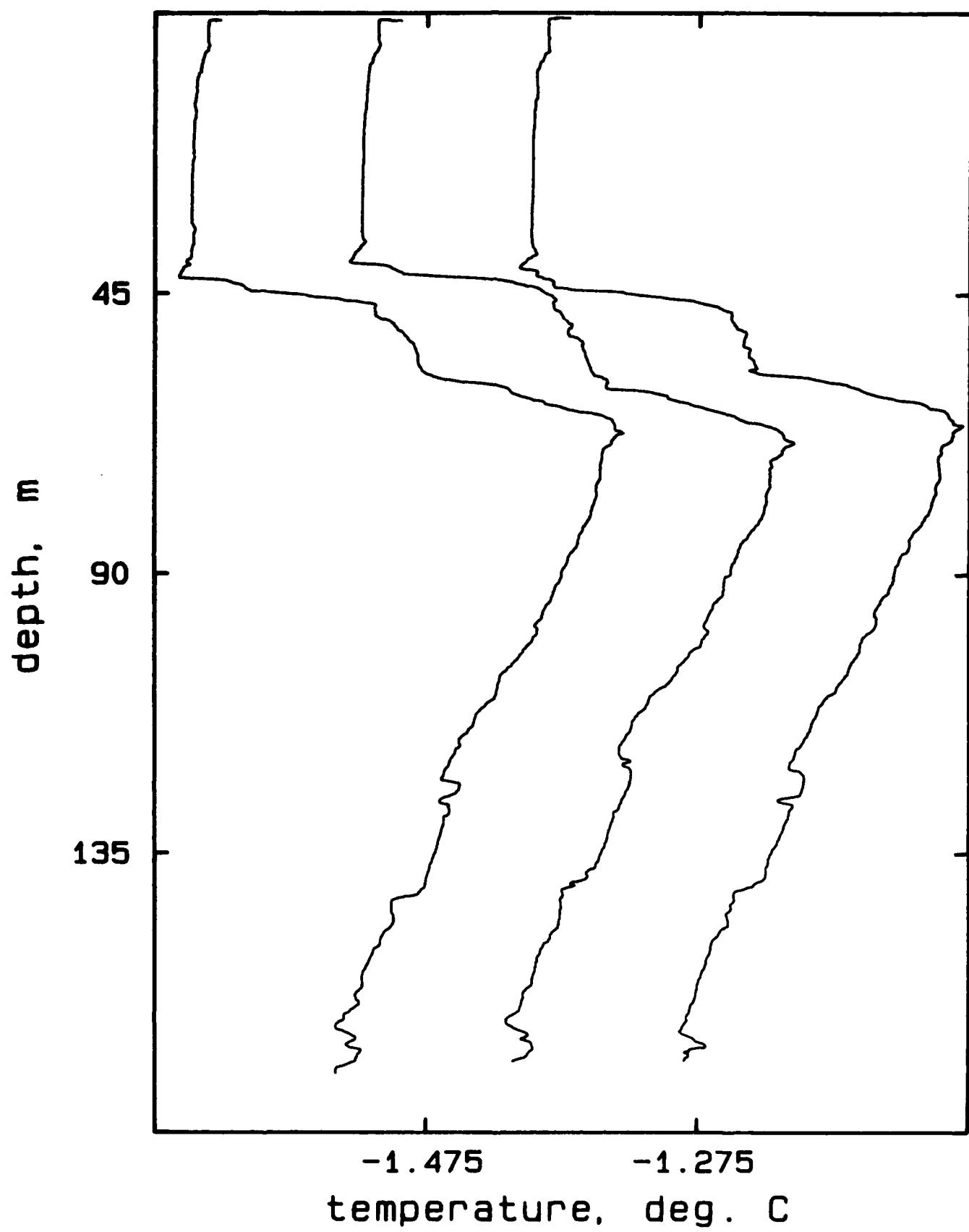


MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

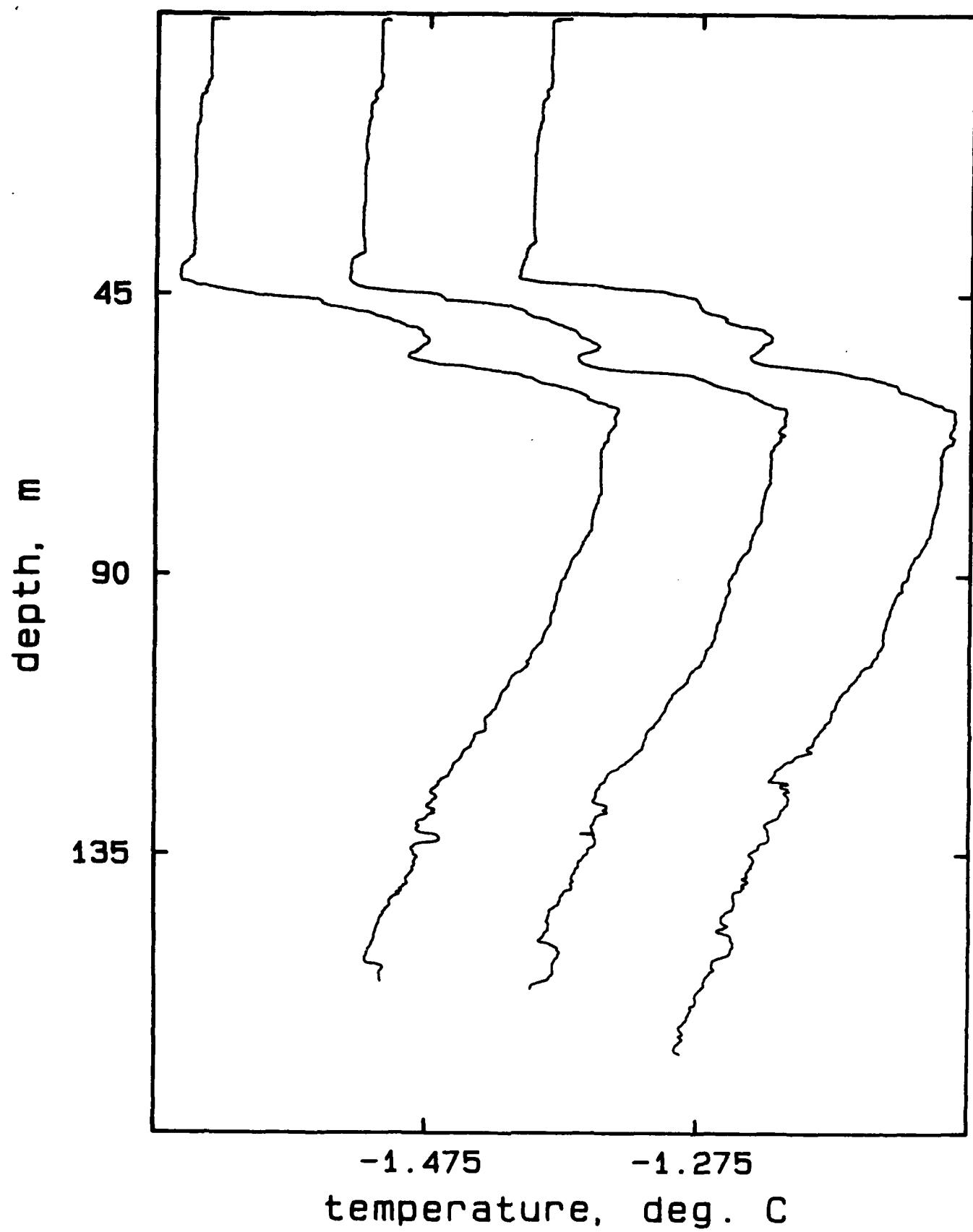
## AR417D, drops 5-7



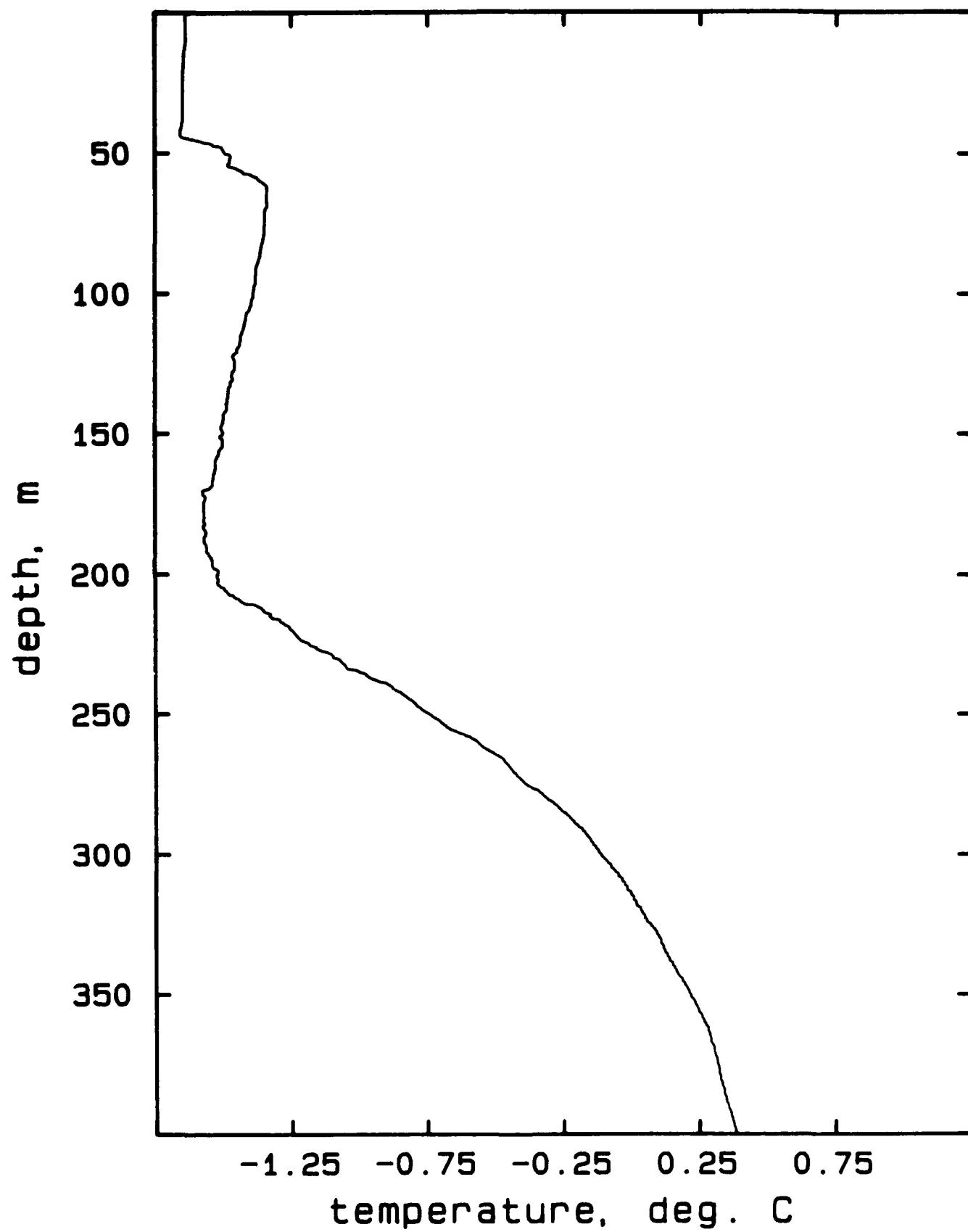
## AR417D, drops 8-10



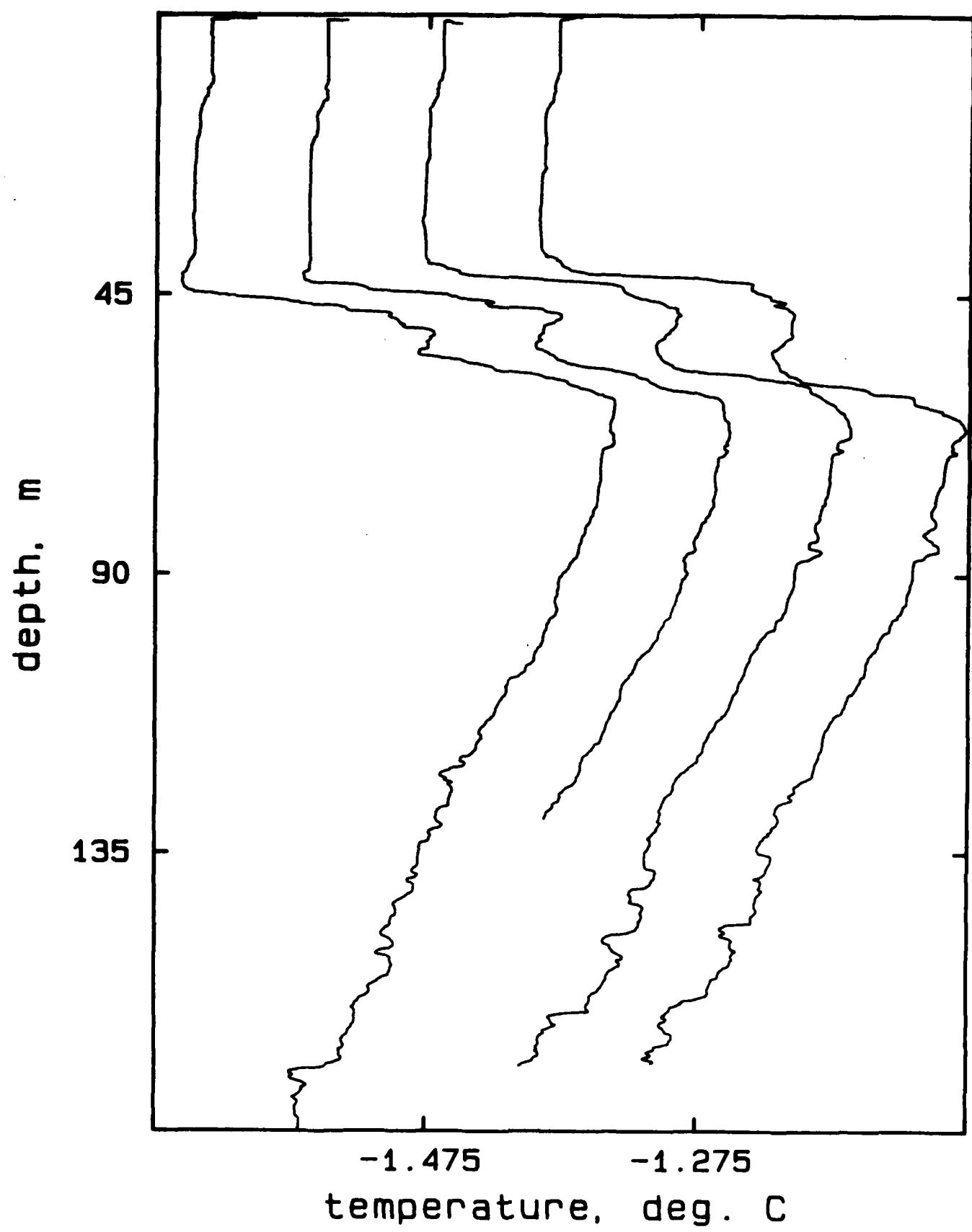
## AR417D, drops 11-13



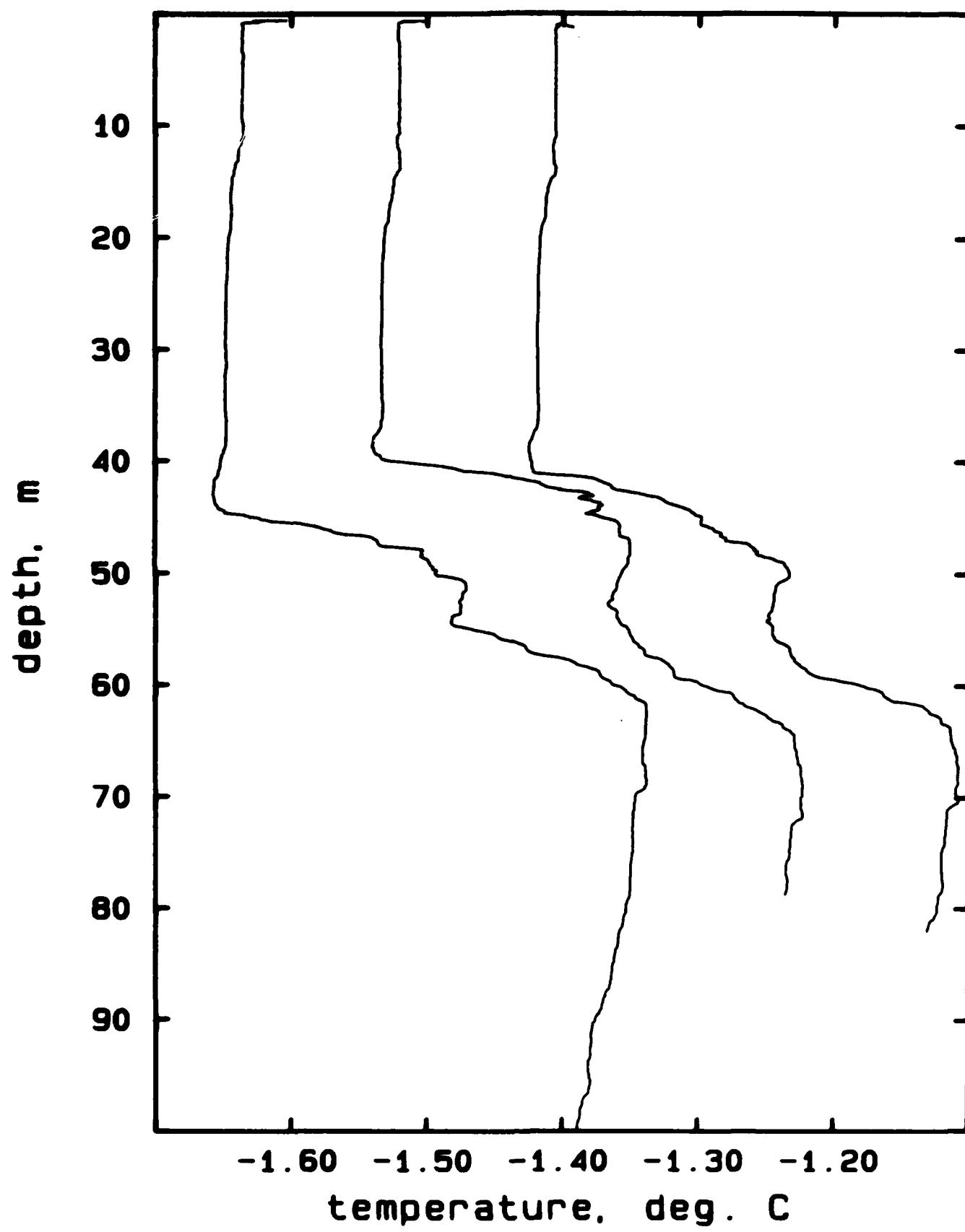
## AR417E, drop 1



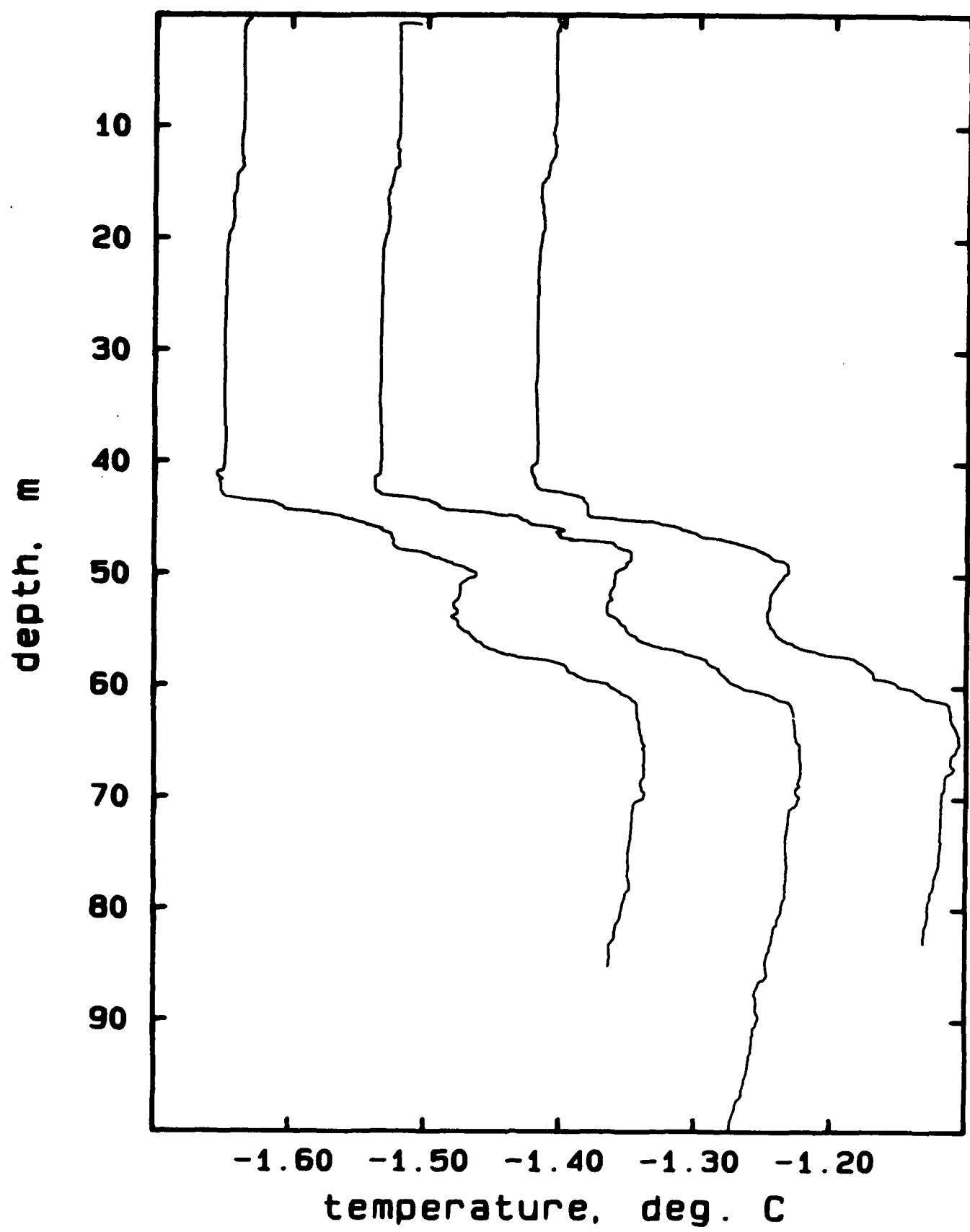
## AR417E, drops 1, 5, 12, 13



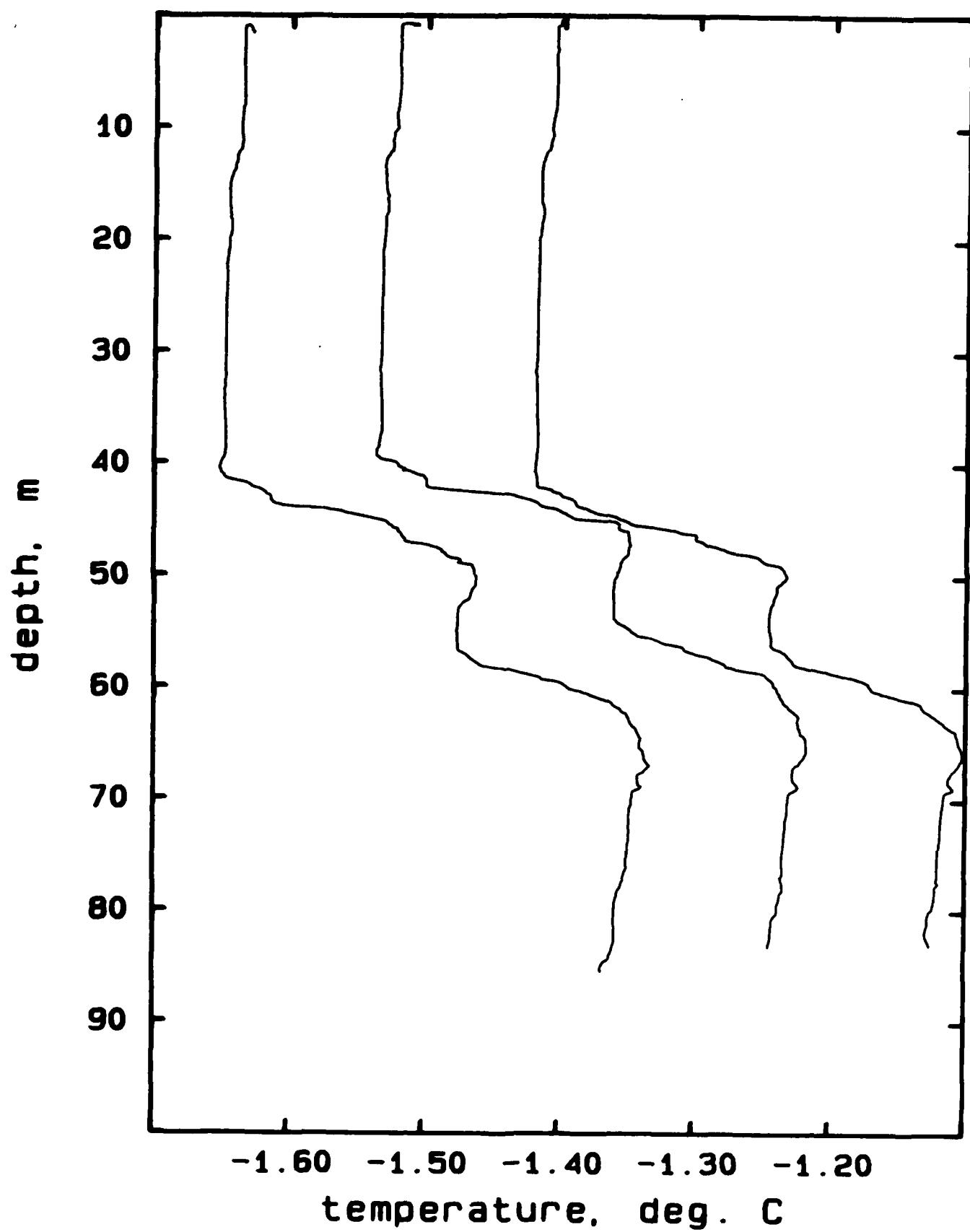
## AR417E. drops 1-3



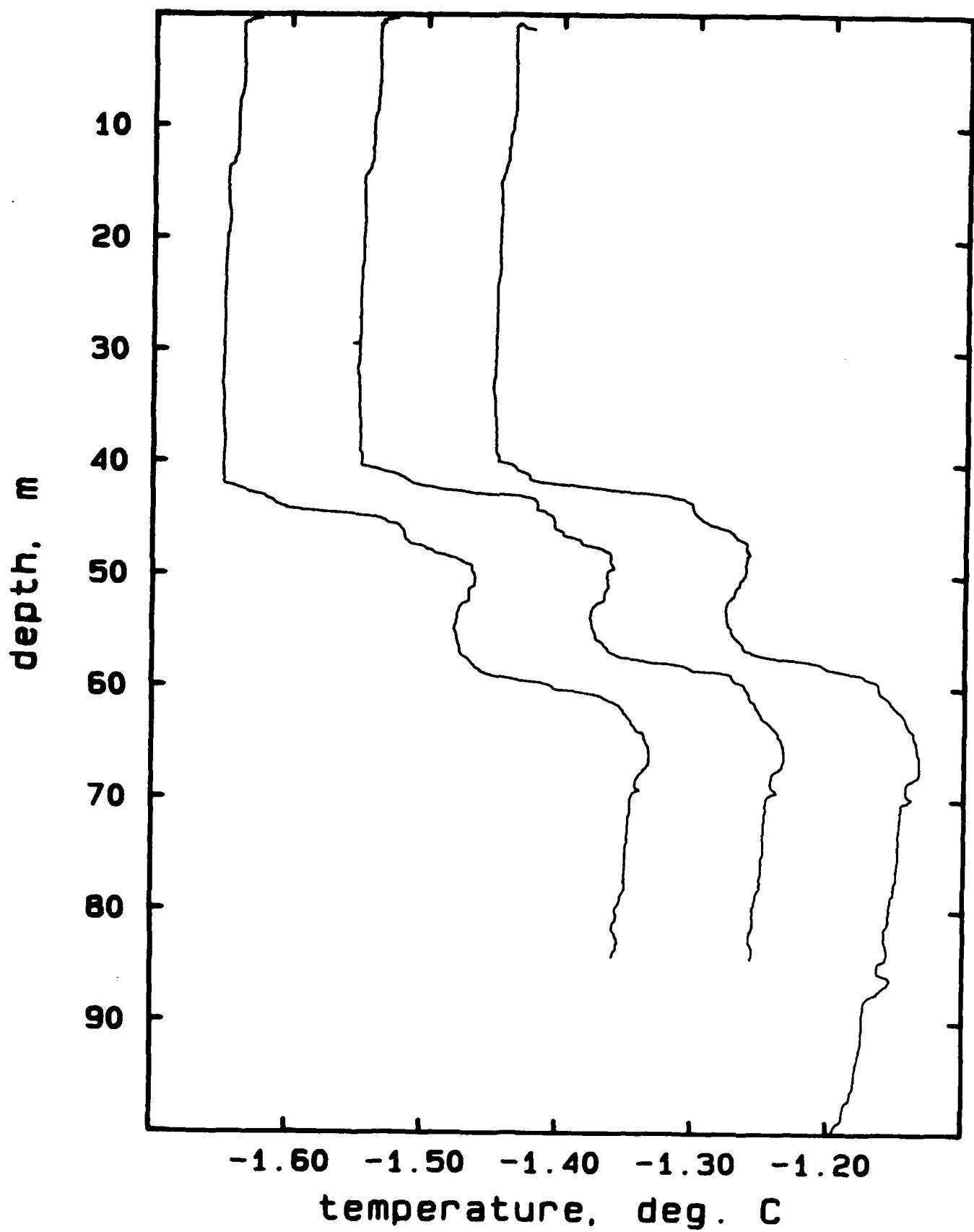
## AR417E, drops 4-6



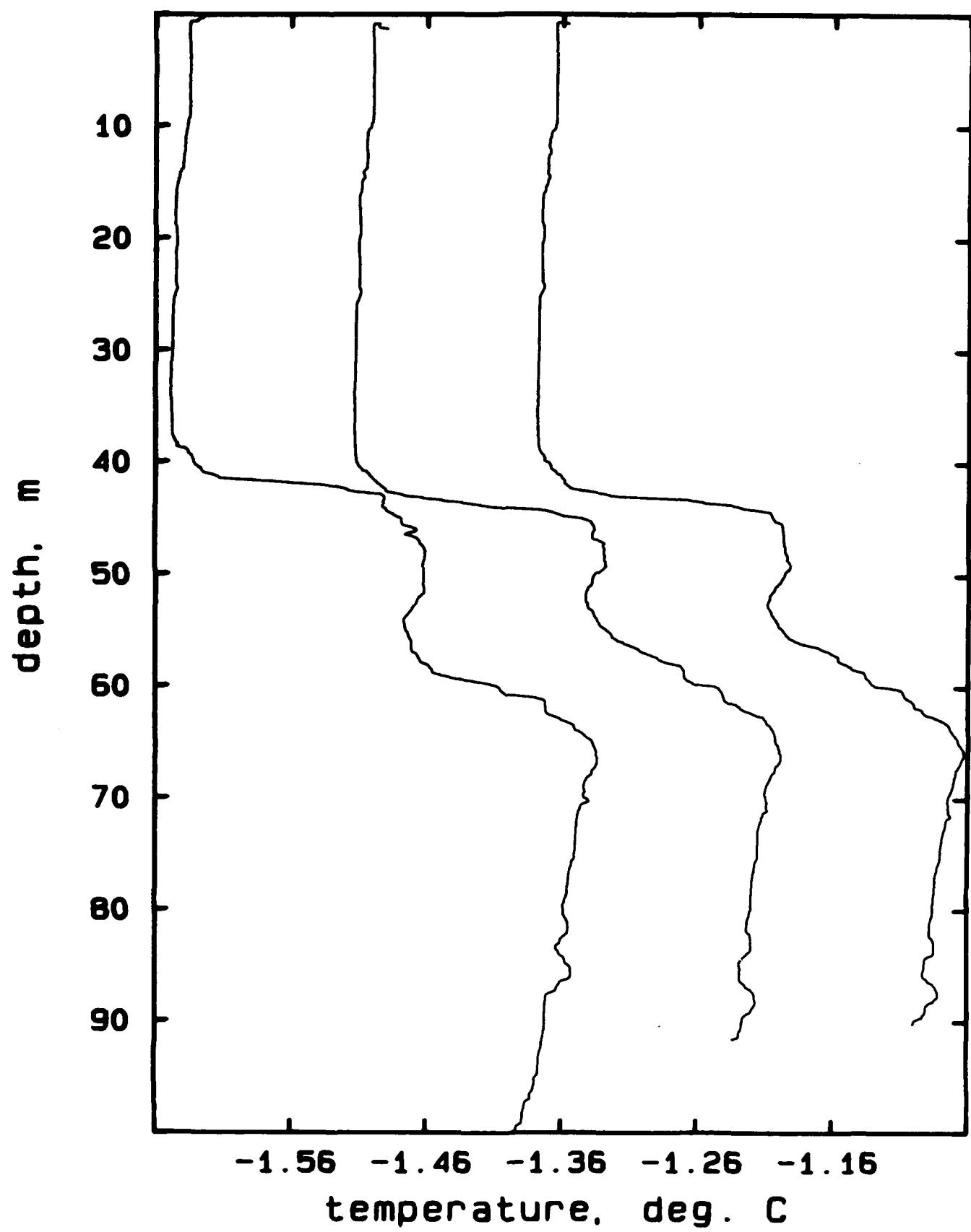
## AR417E, drops 7-9



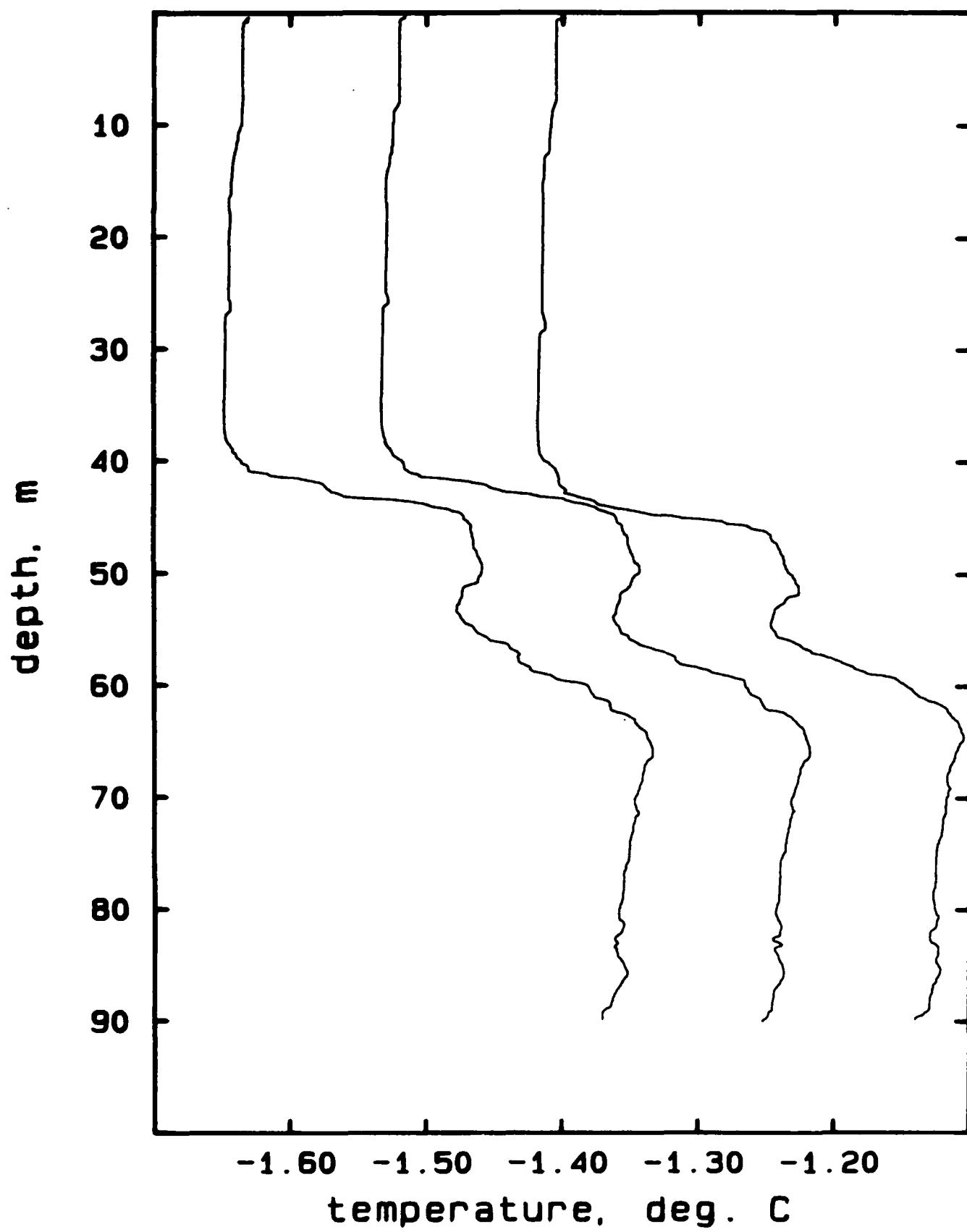
## AR417E, drops 10-12



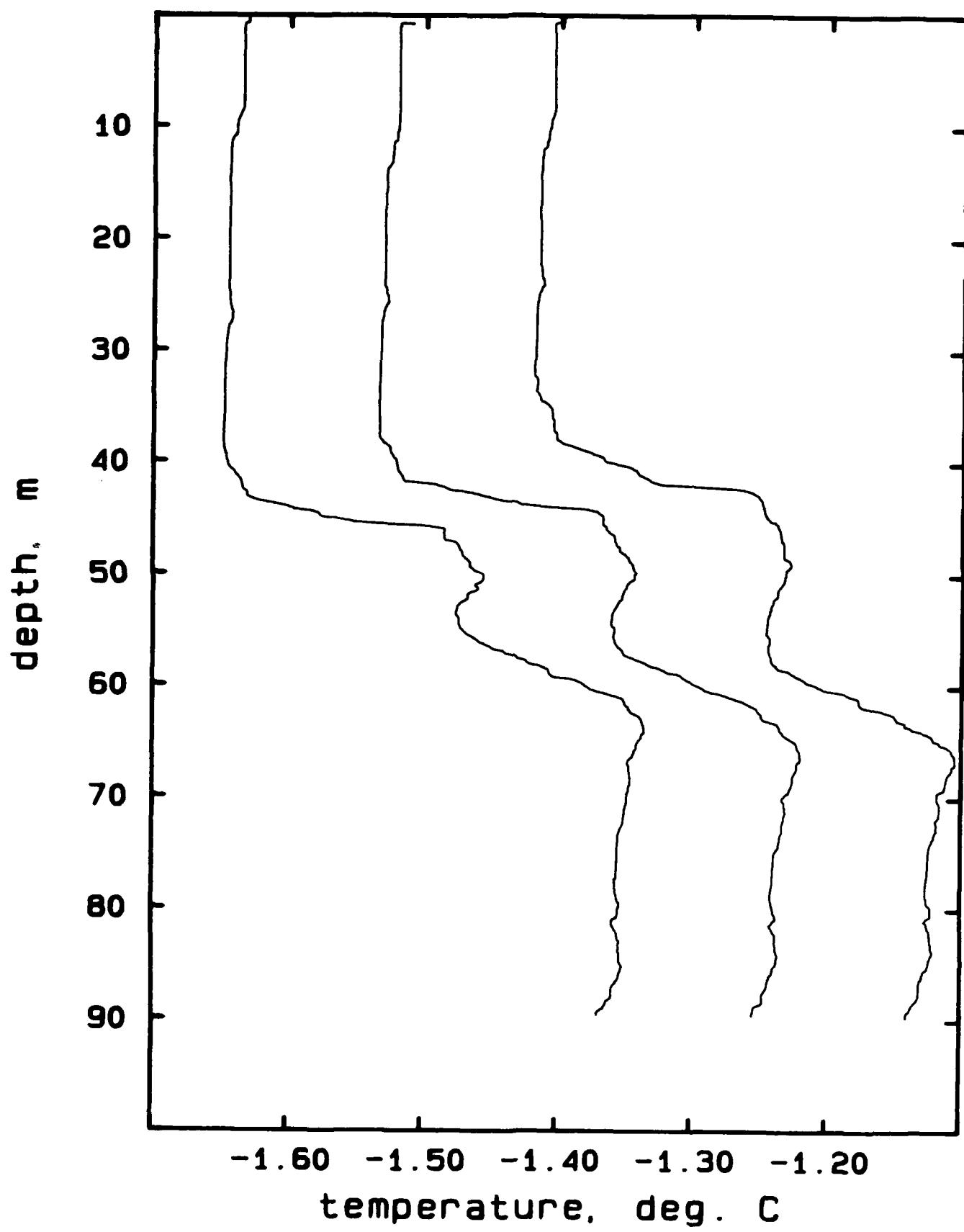
## AR417E, drops 13-15



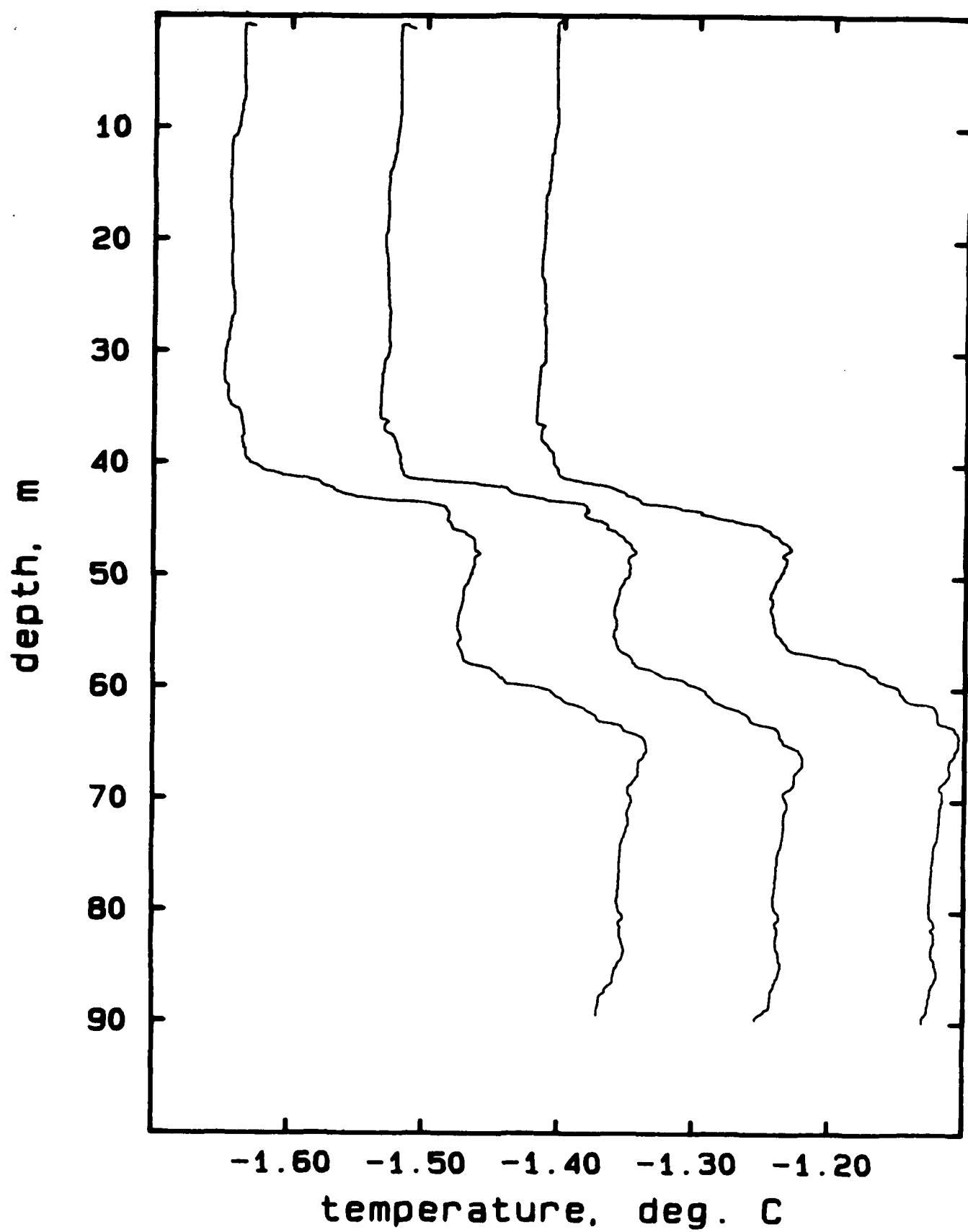
## AR417E, drops 16-18



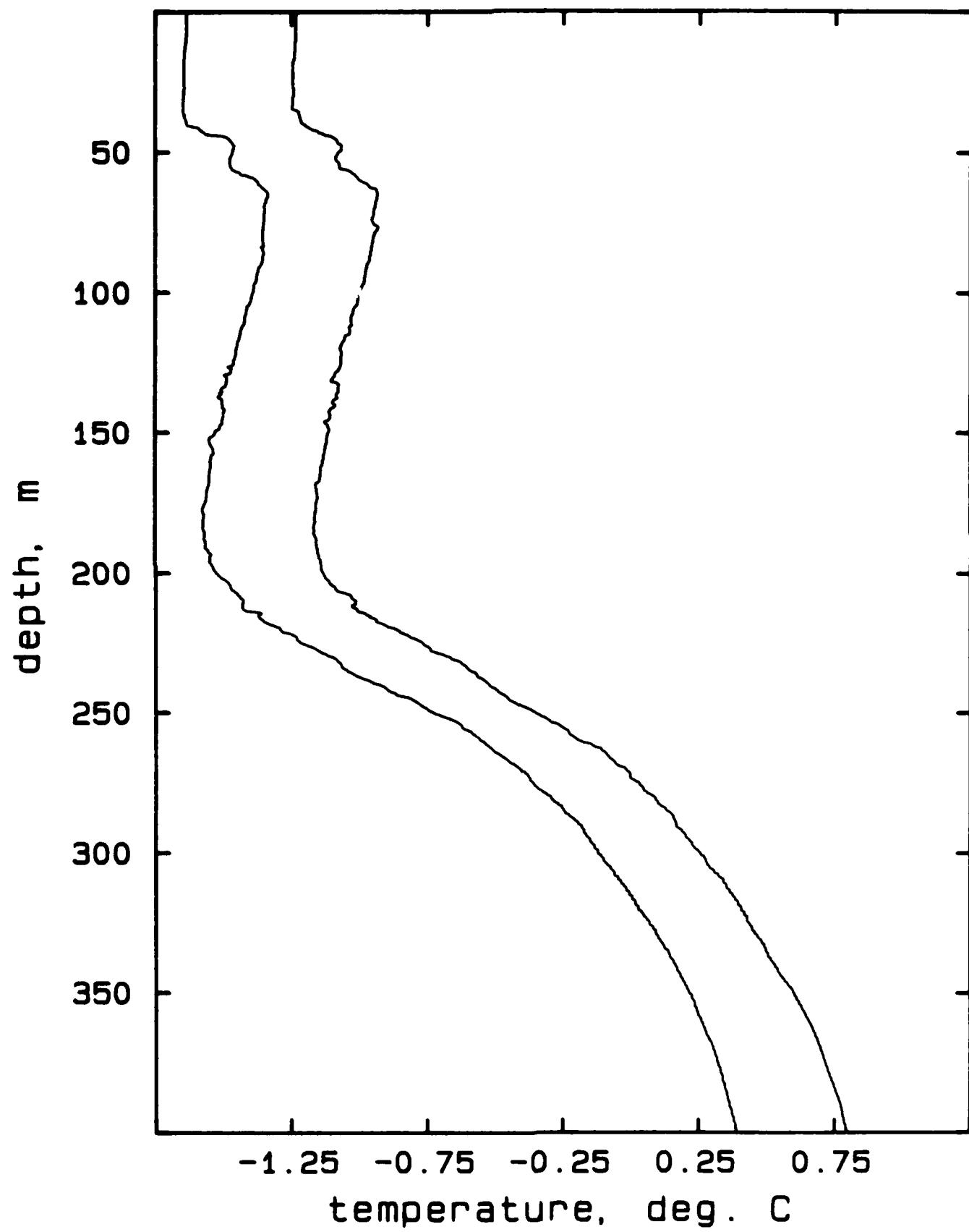
## AR417E, drops 19-21



## AR417E, drops 22-24

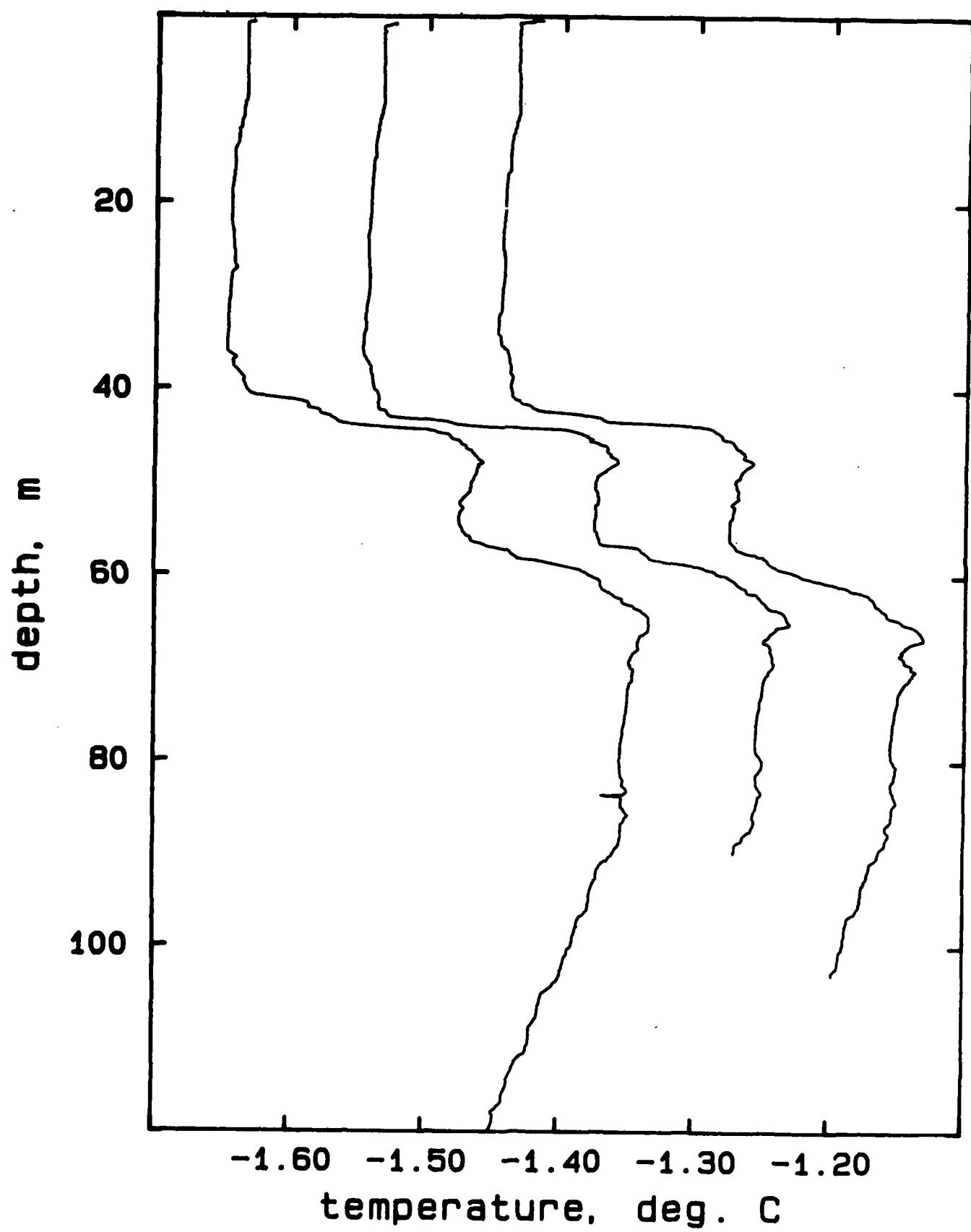


AR417F, drops 1, 18

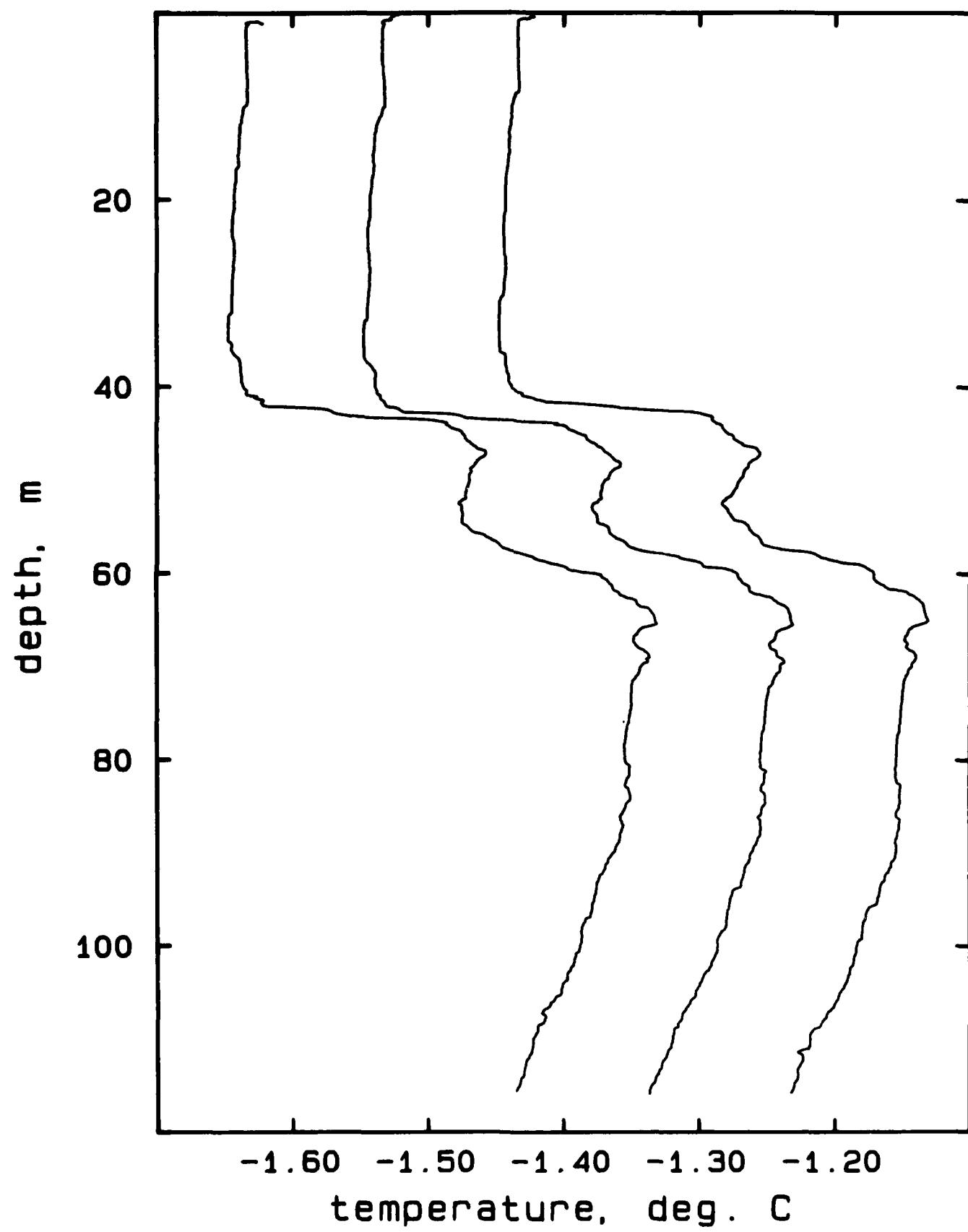


201

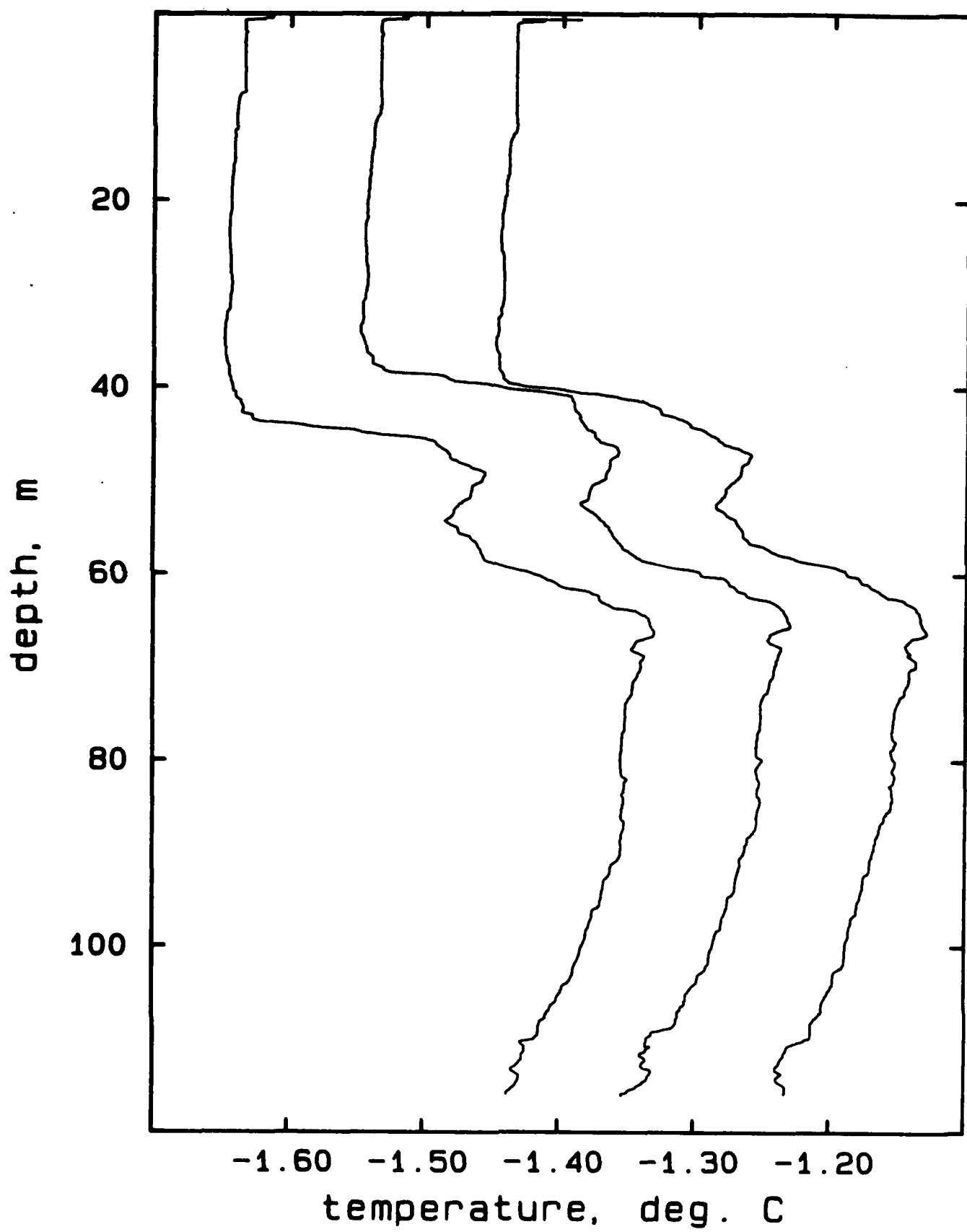
## AR417F, drops 1-3



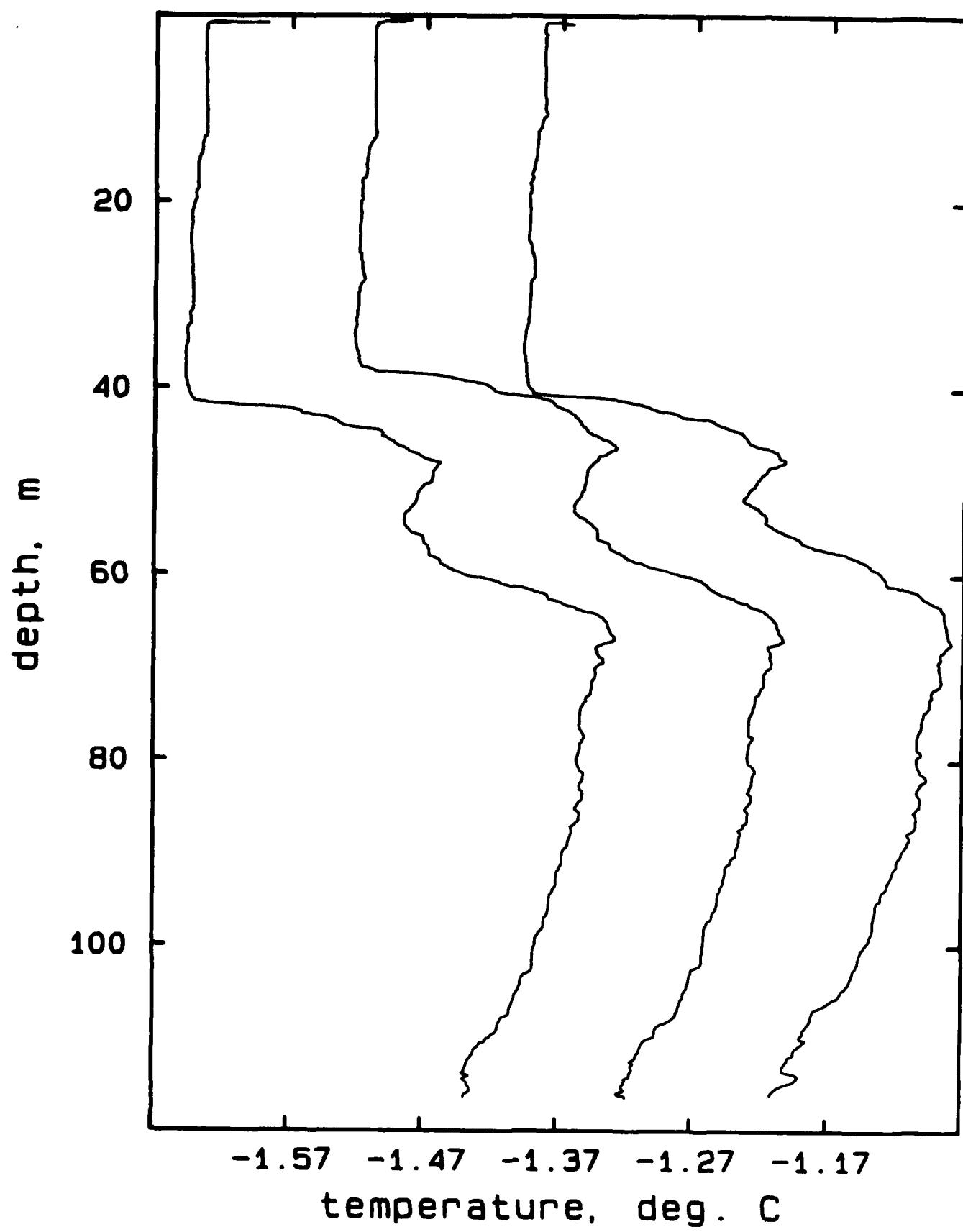
## AR417F, drops 4-6



## AR417F, drops 7-9

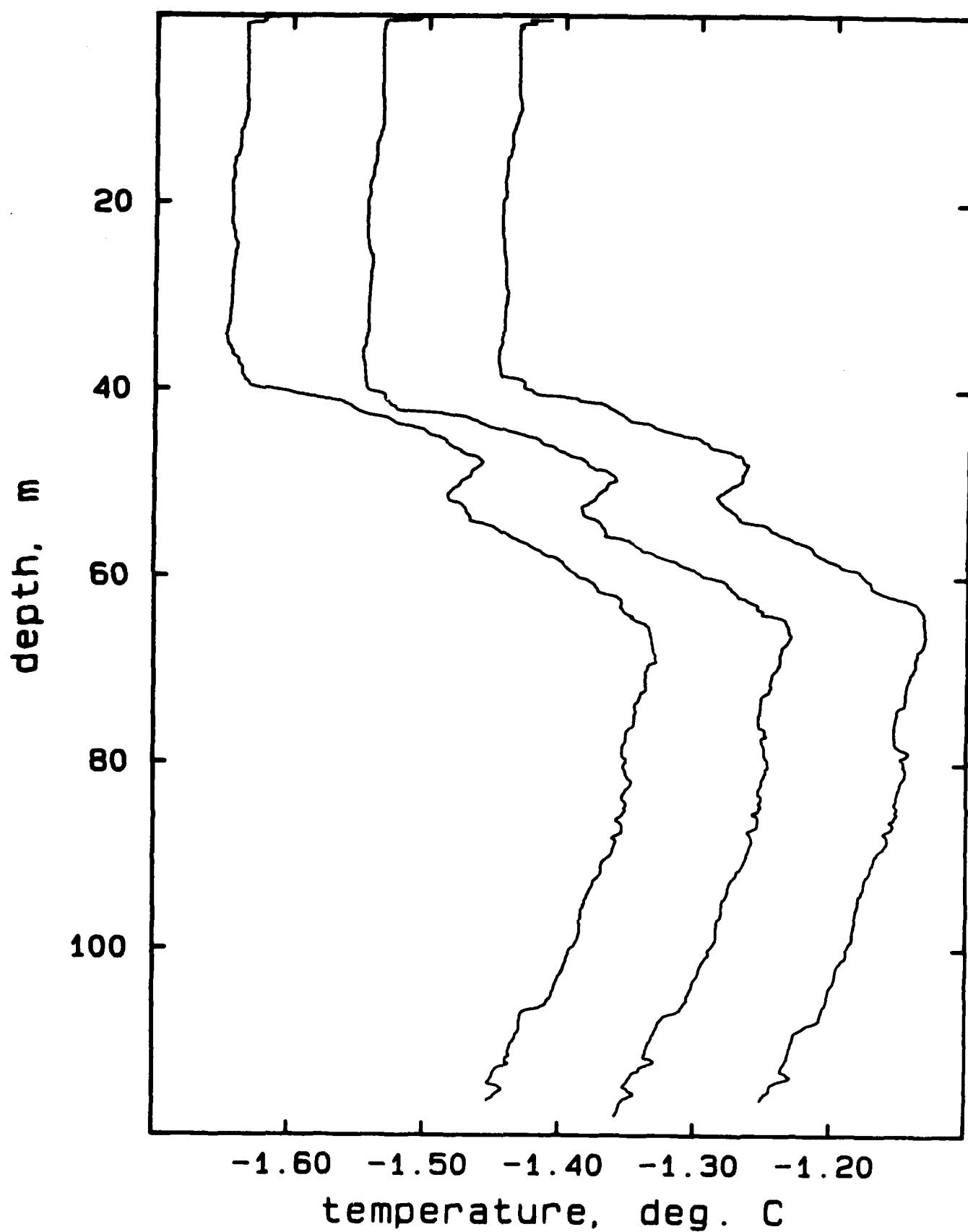


## AR417F, drops 10-12

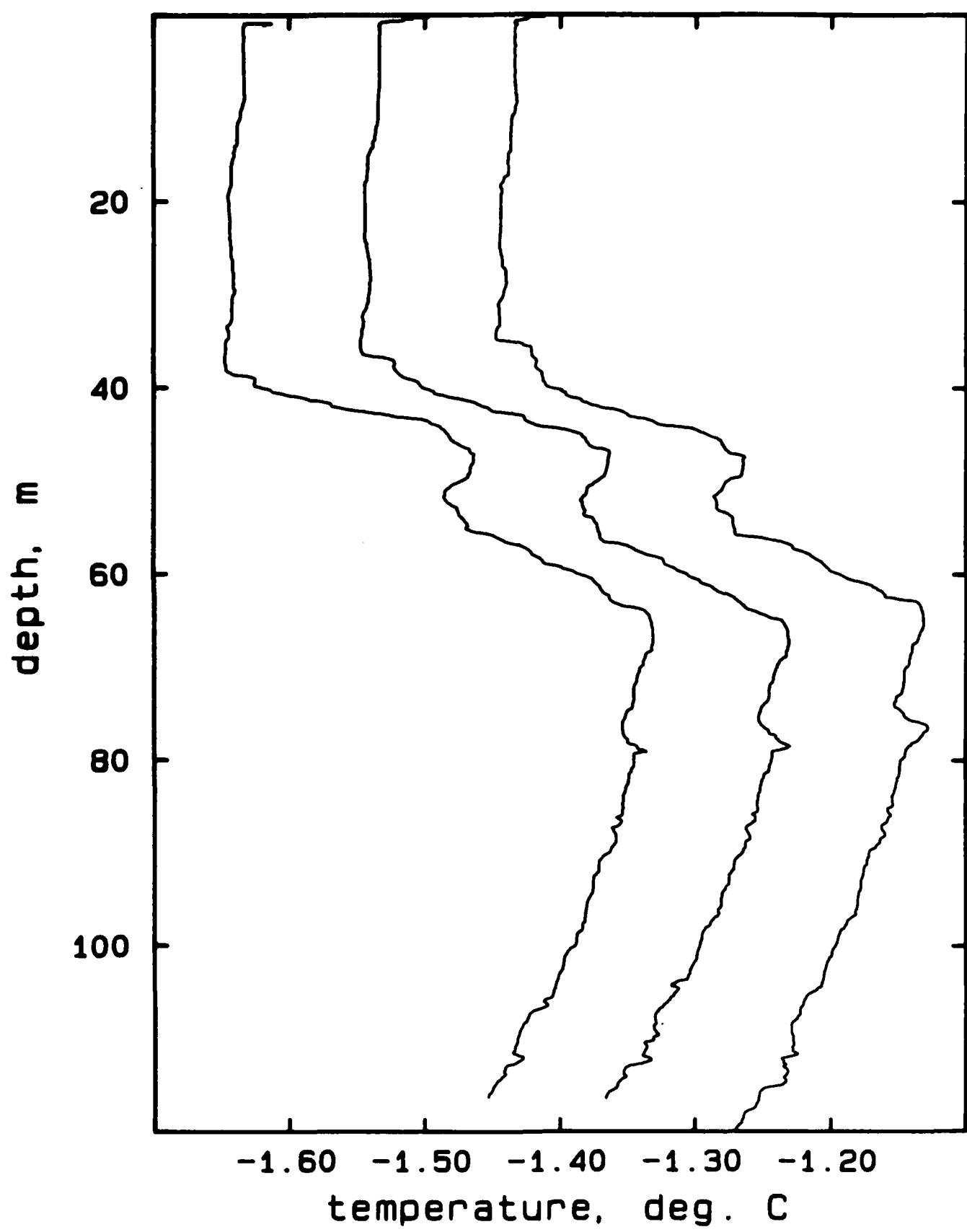


205

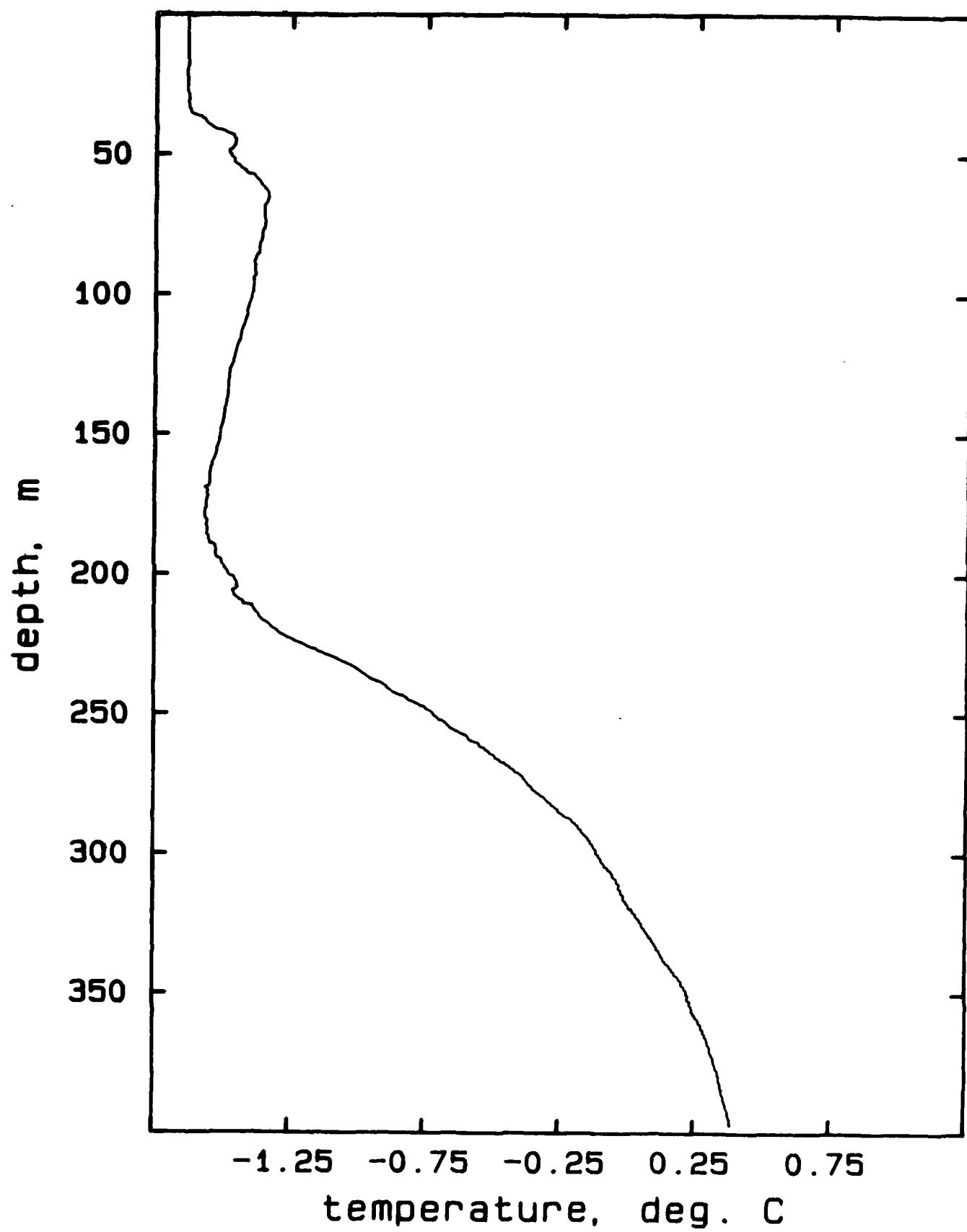
AR417F, drops 13-15



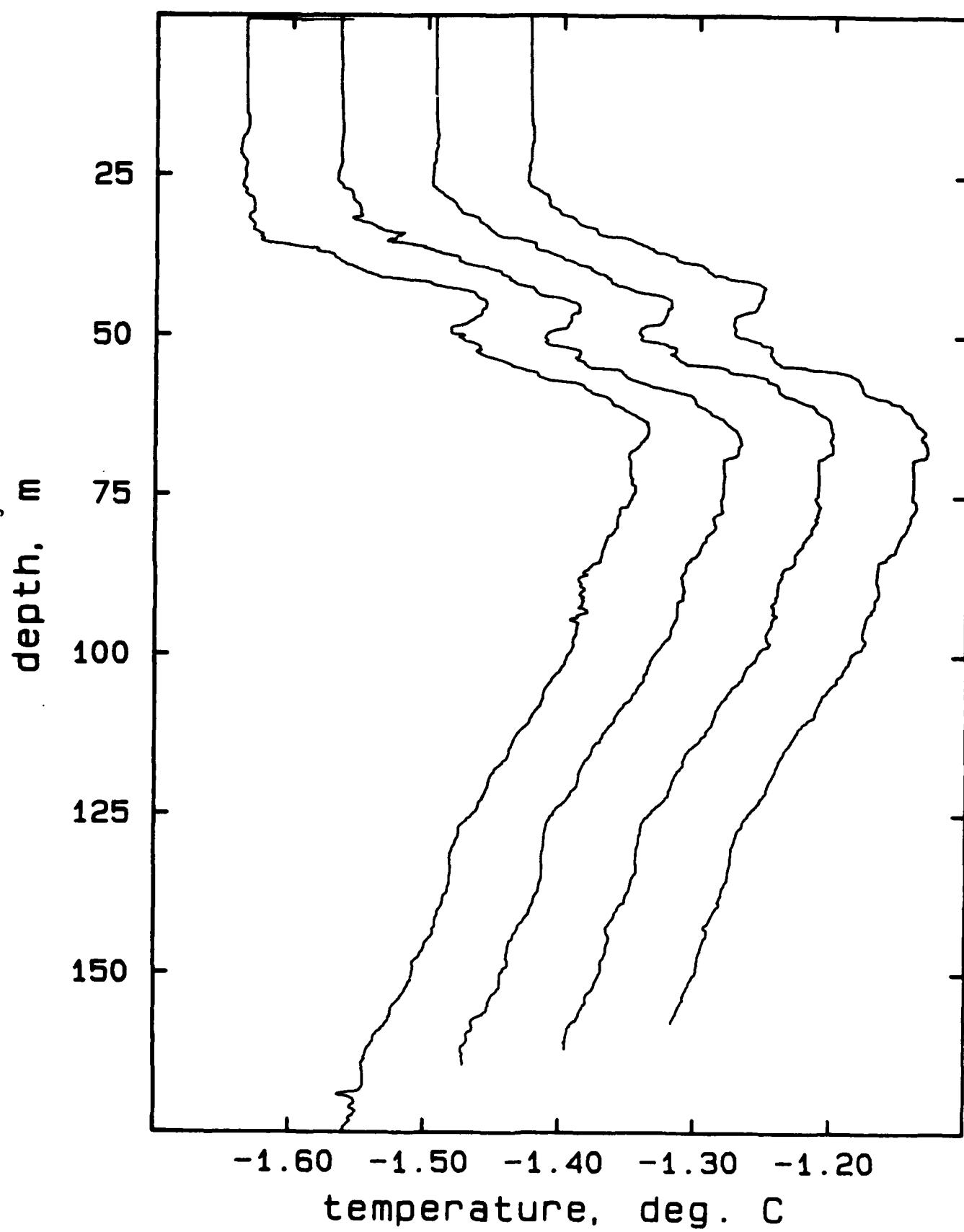
## AR417F, drops 16-18



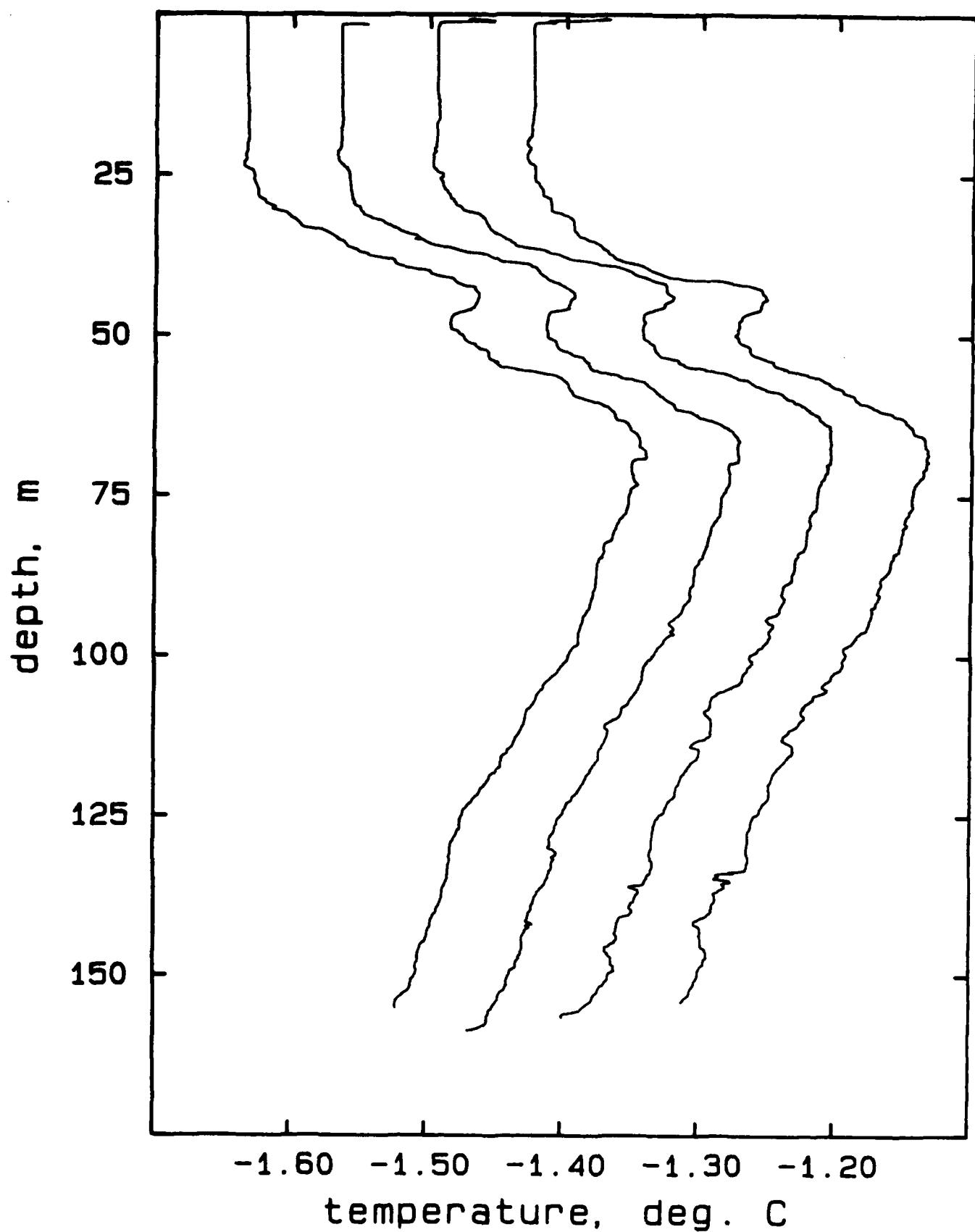
## AR418A, drop 3



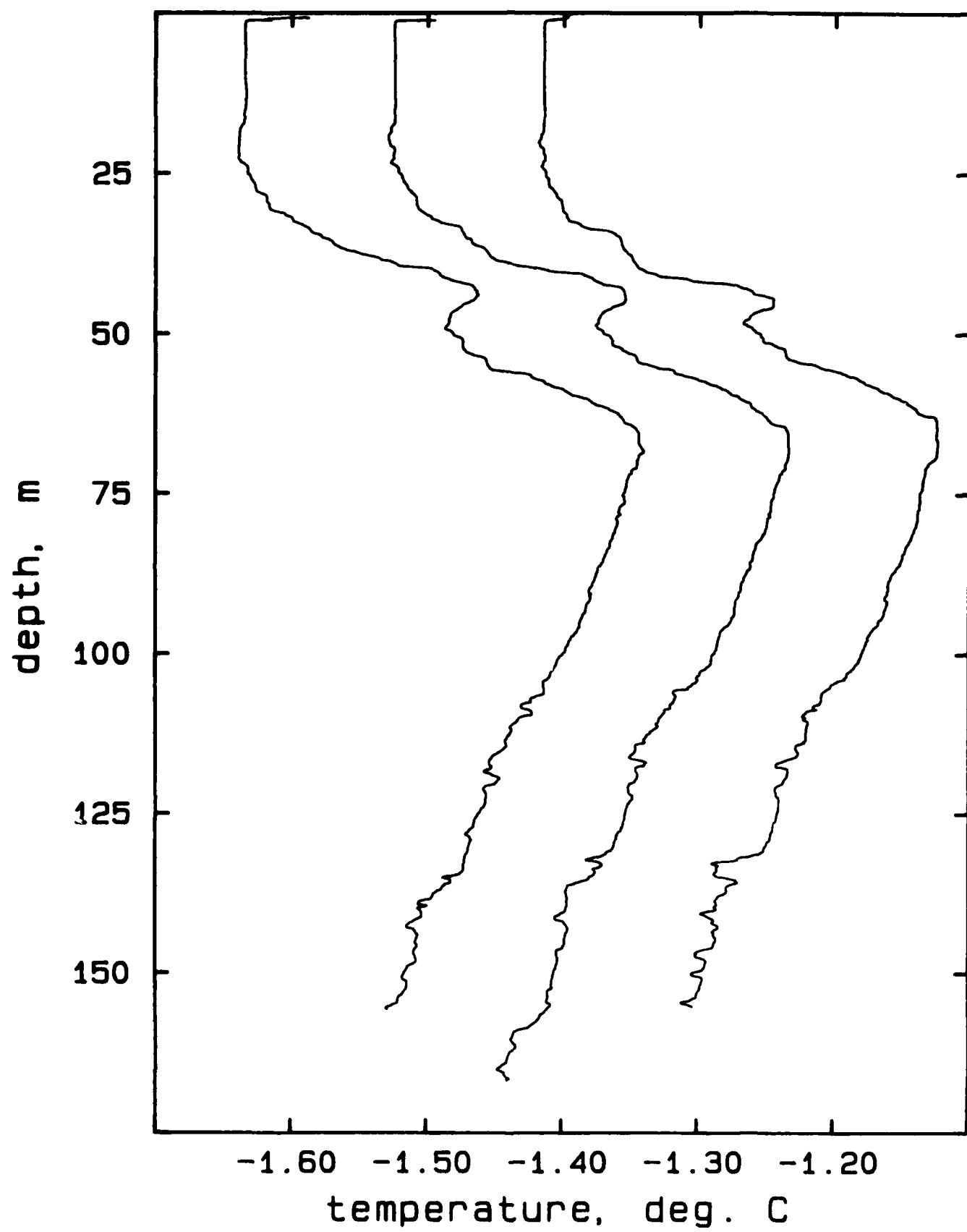
## AR418A, drops 3-6



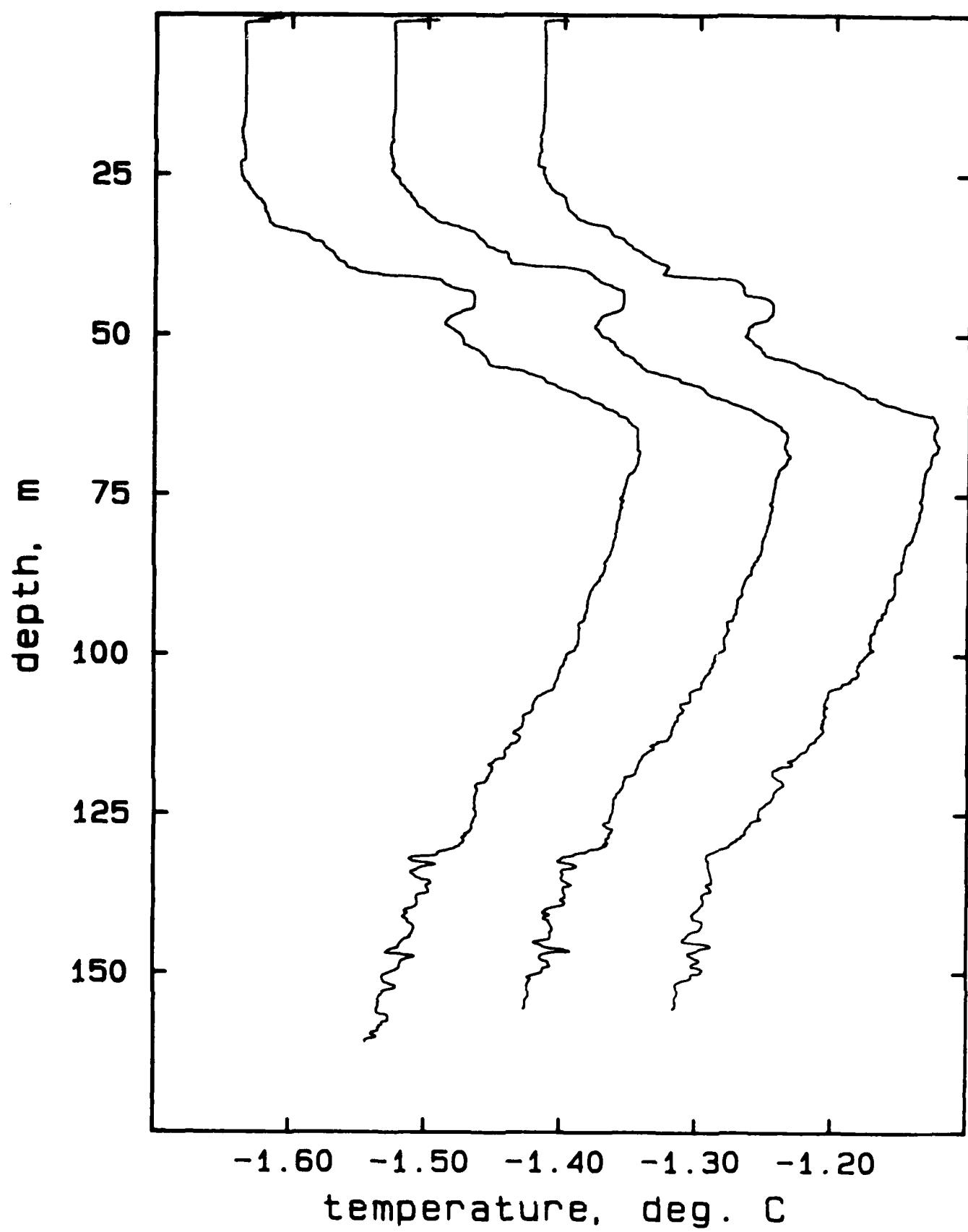
## AR418A, drops 7-10



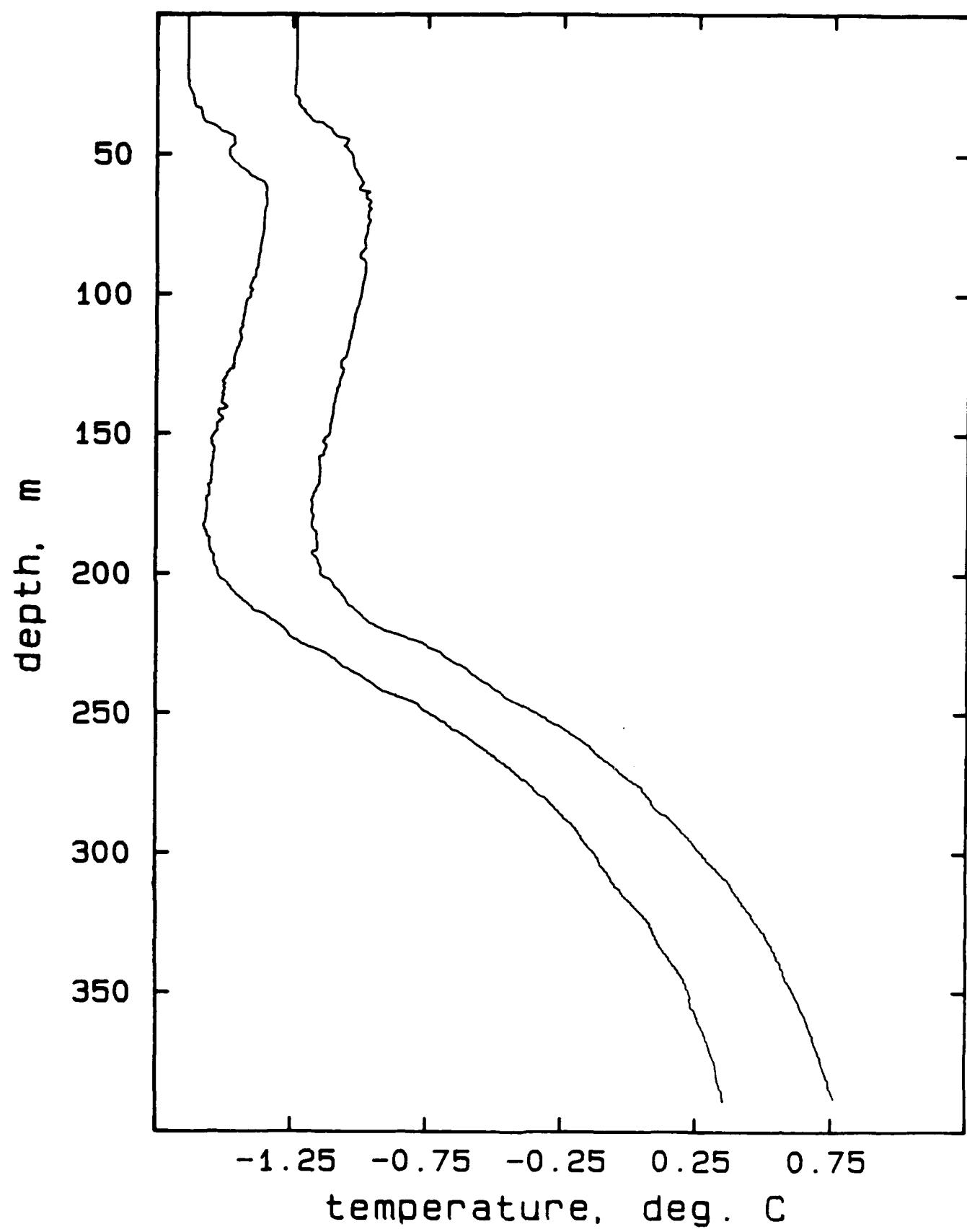
## AR418A, drops 11-13



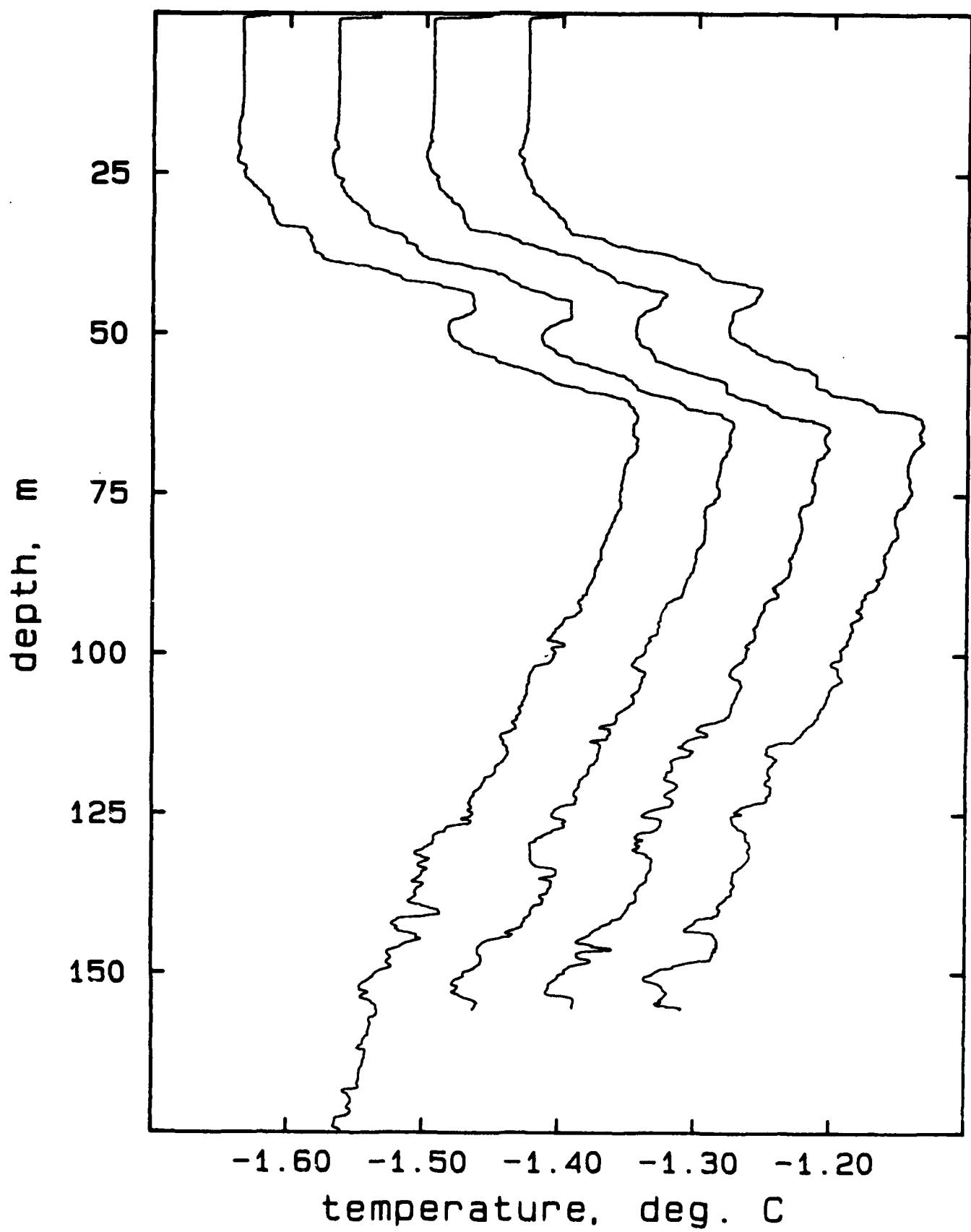
## AR418A, drops 14-16



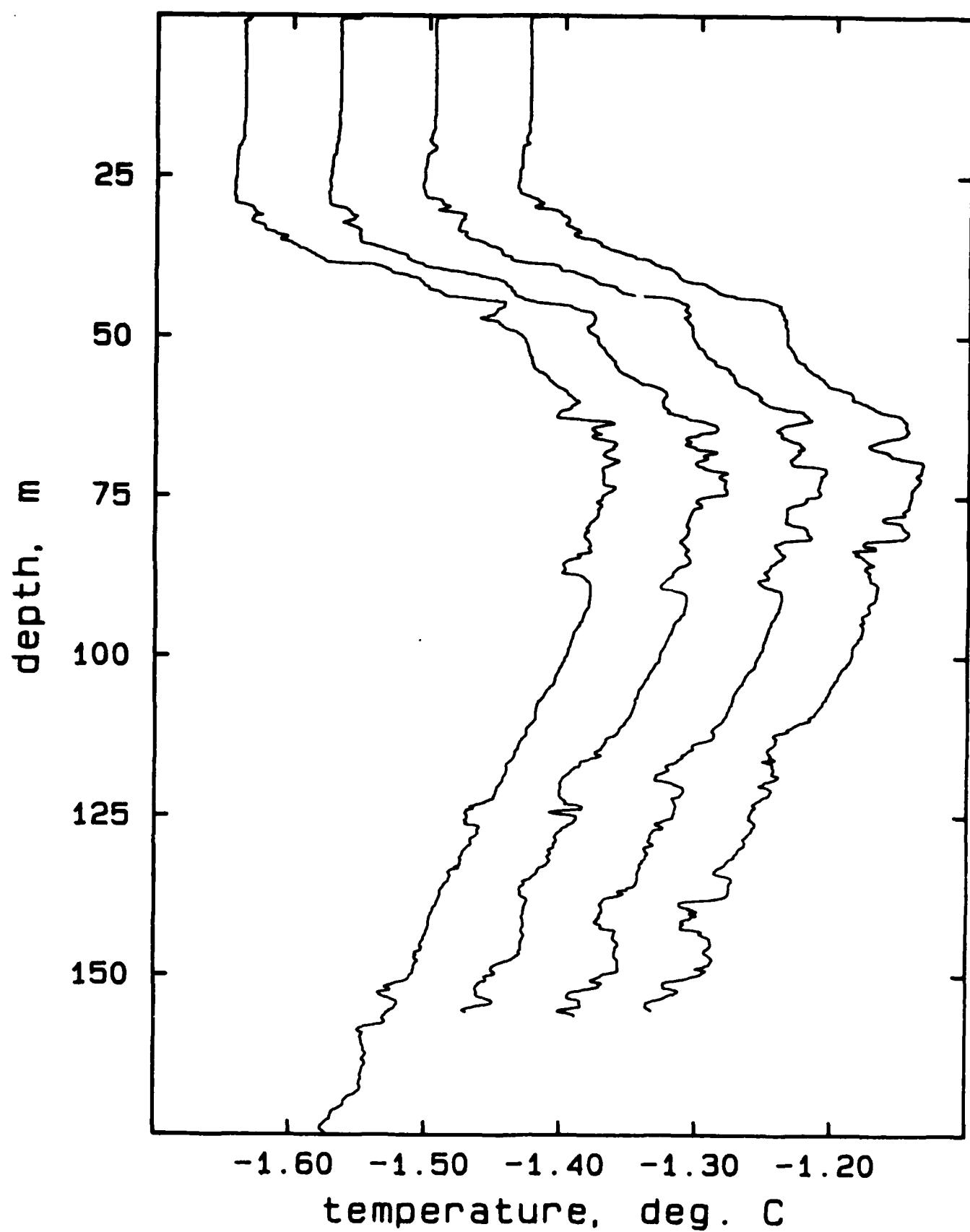
## AR418B, drops 1, 7



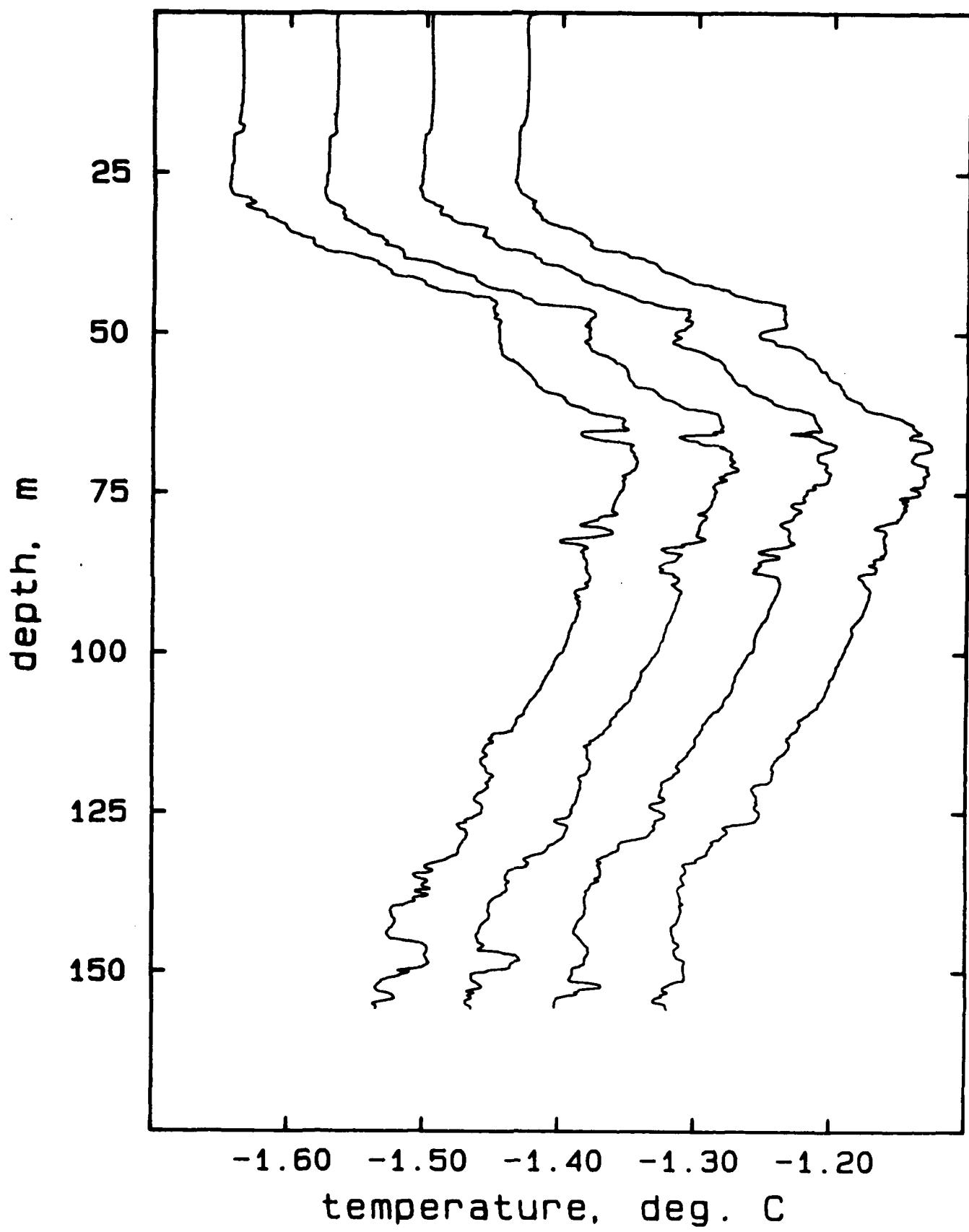
## AR418B, drops 1-4



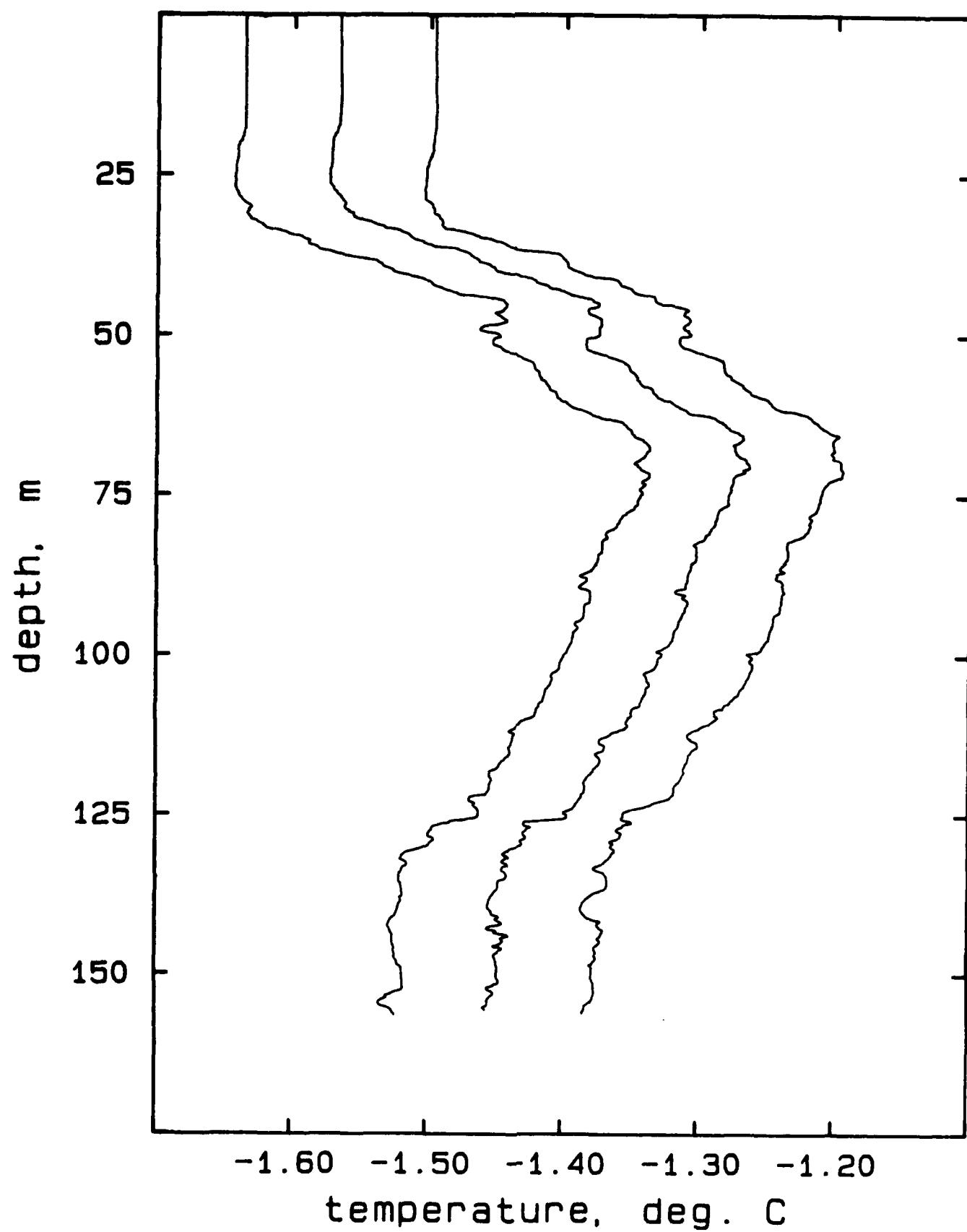
## AR418B, drops 7-10



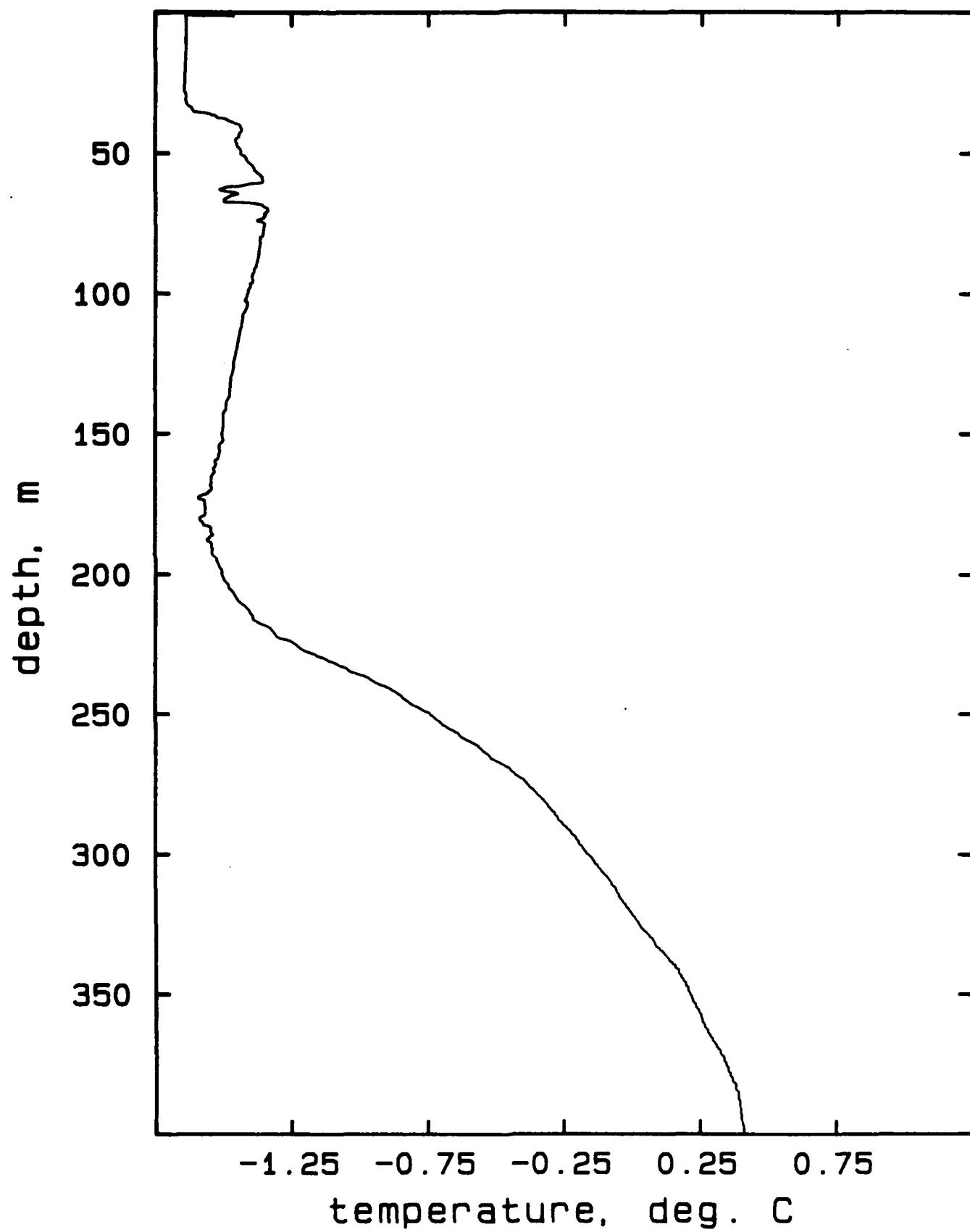
## AR418B, drops 11-14



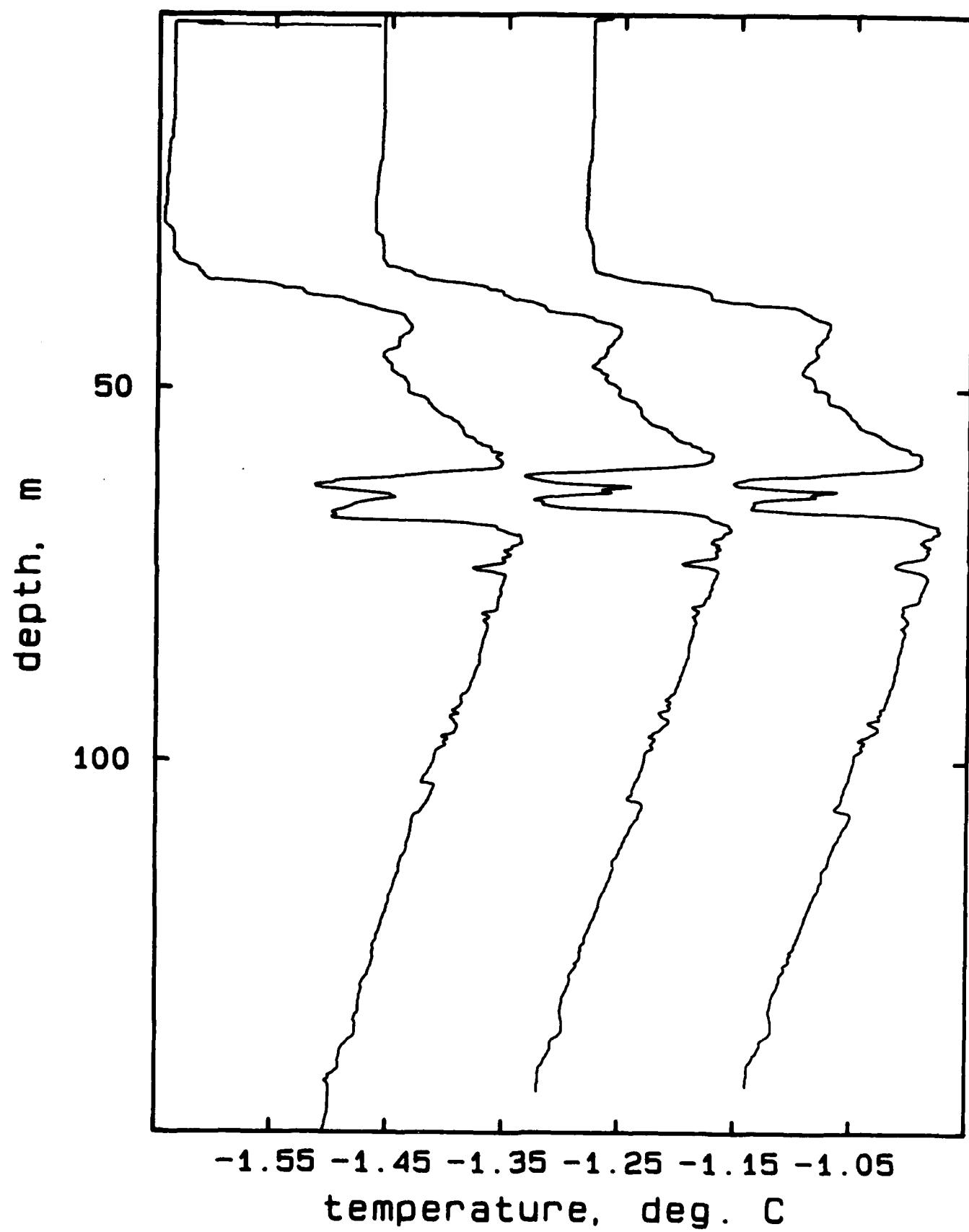
## AR418B, drops 15-17



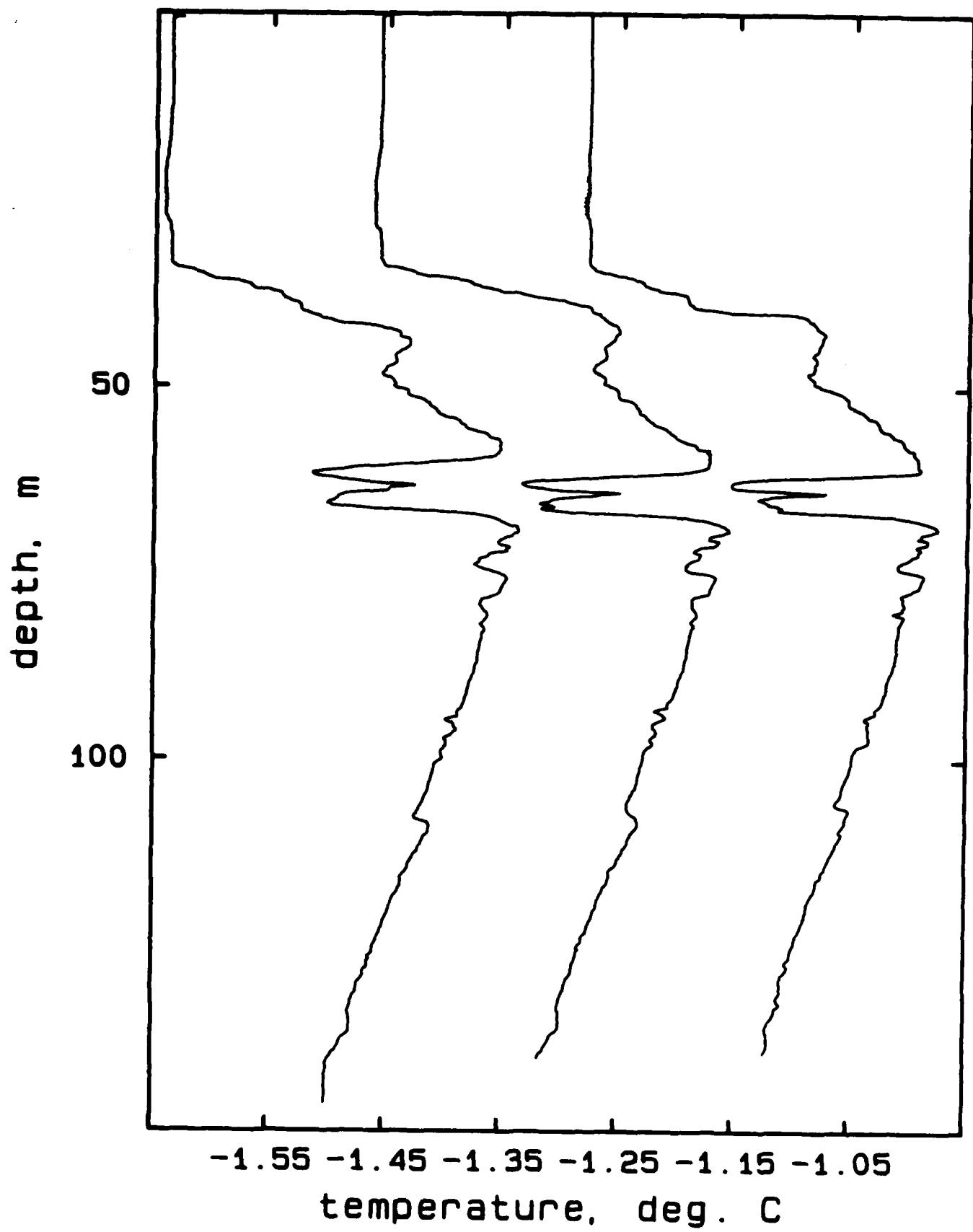
## AR419A, drop 1



## AR419A, drops 1-3

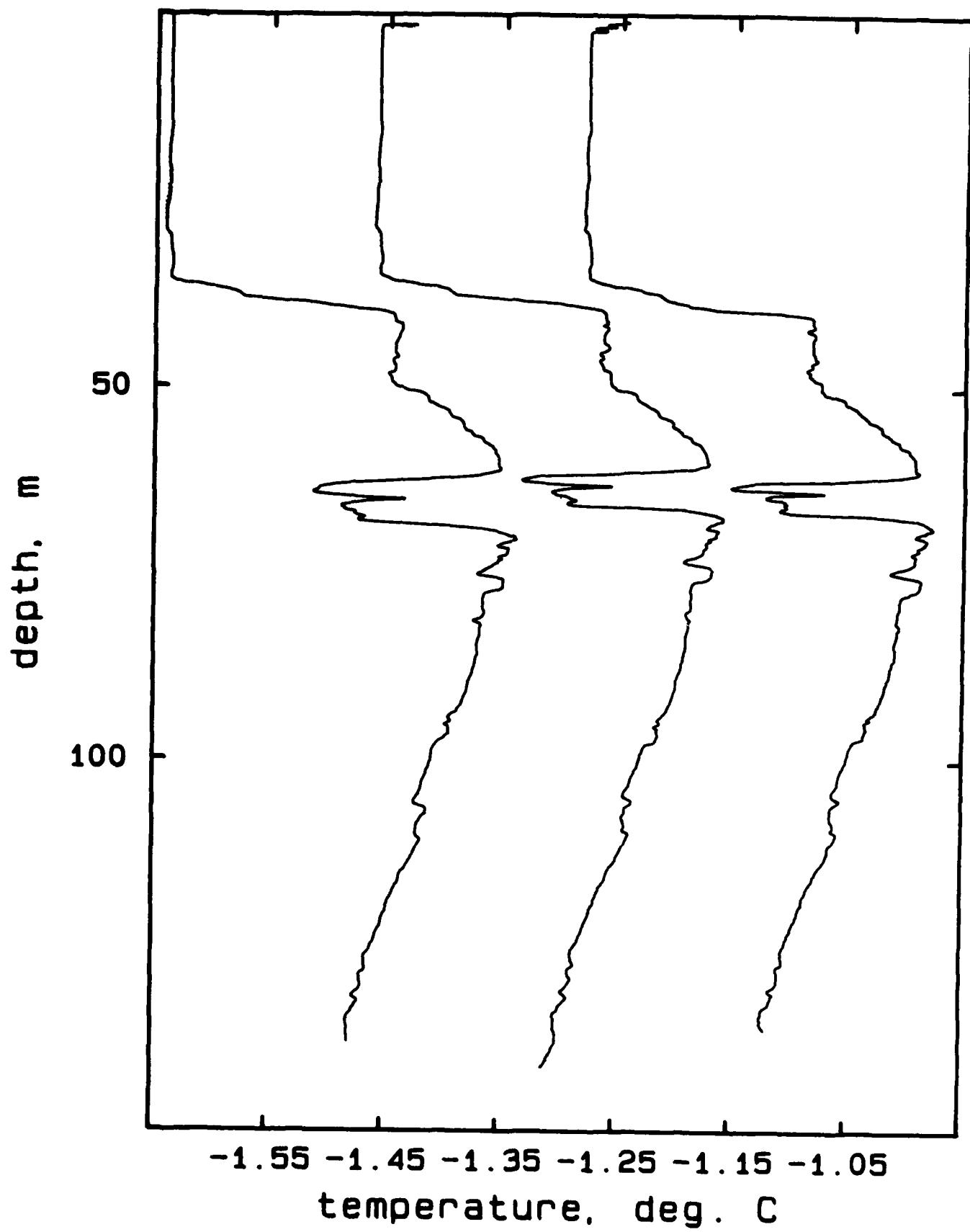


## AR419A, drops 4-6

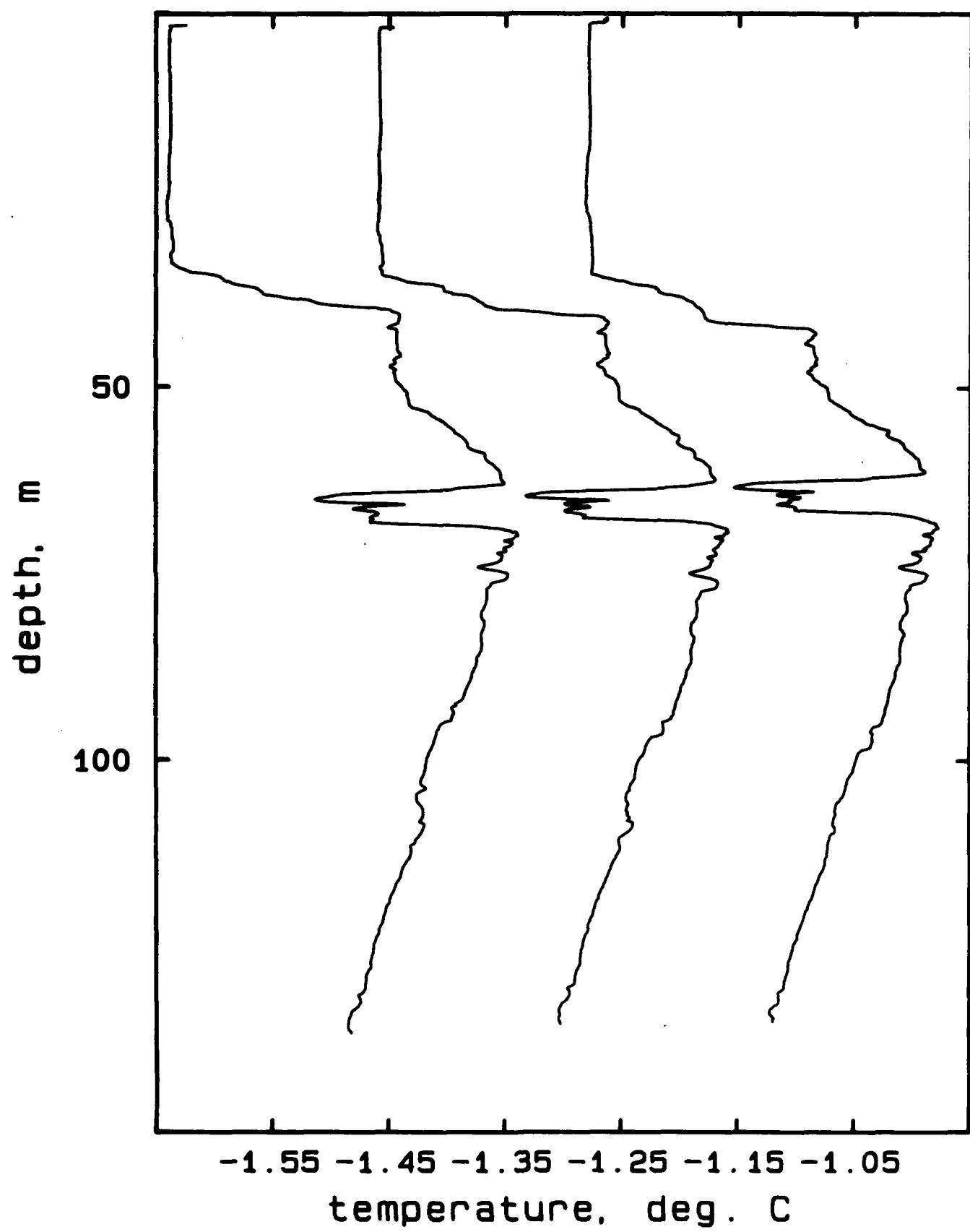


220

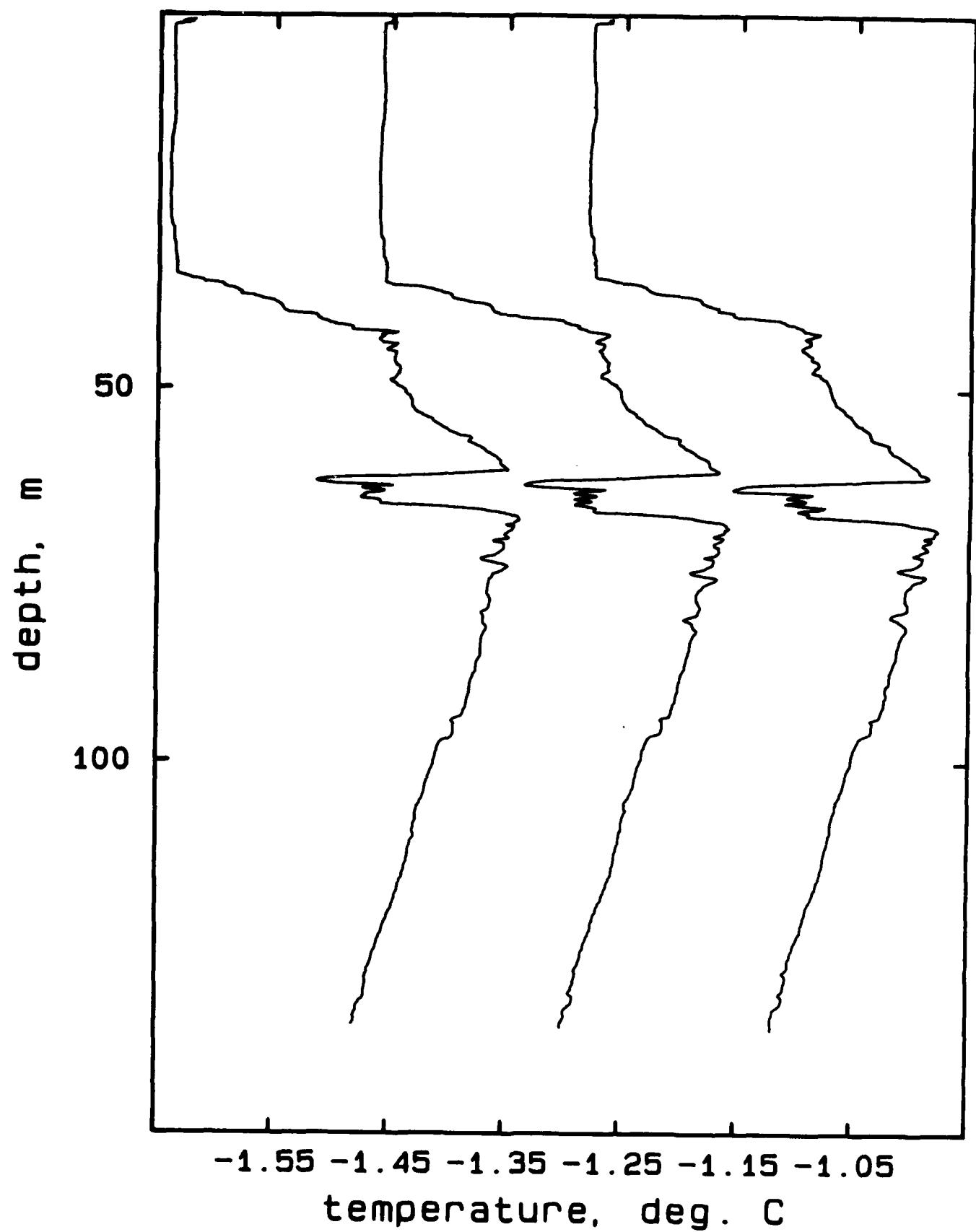
## AR419A, drops 7-9



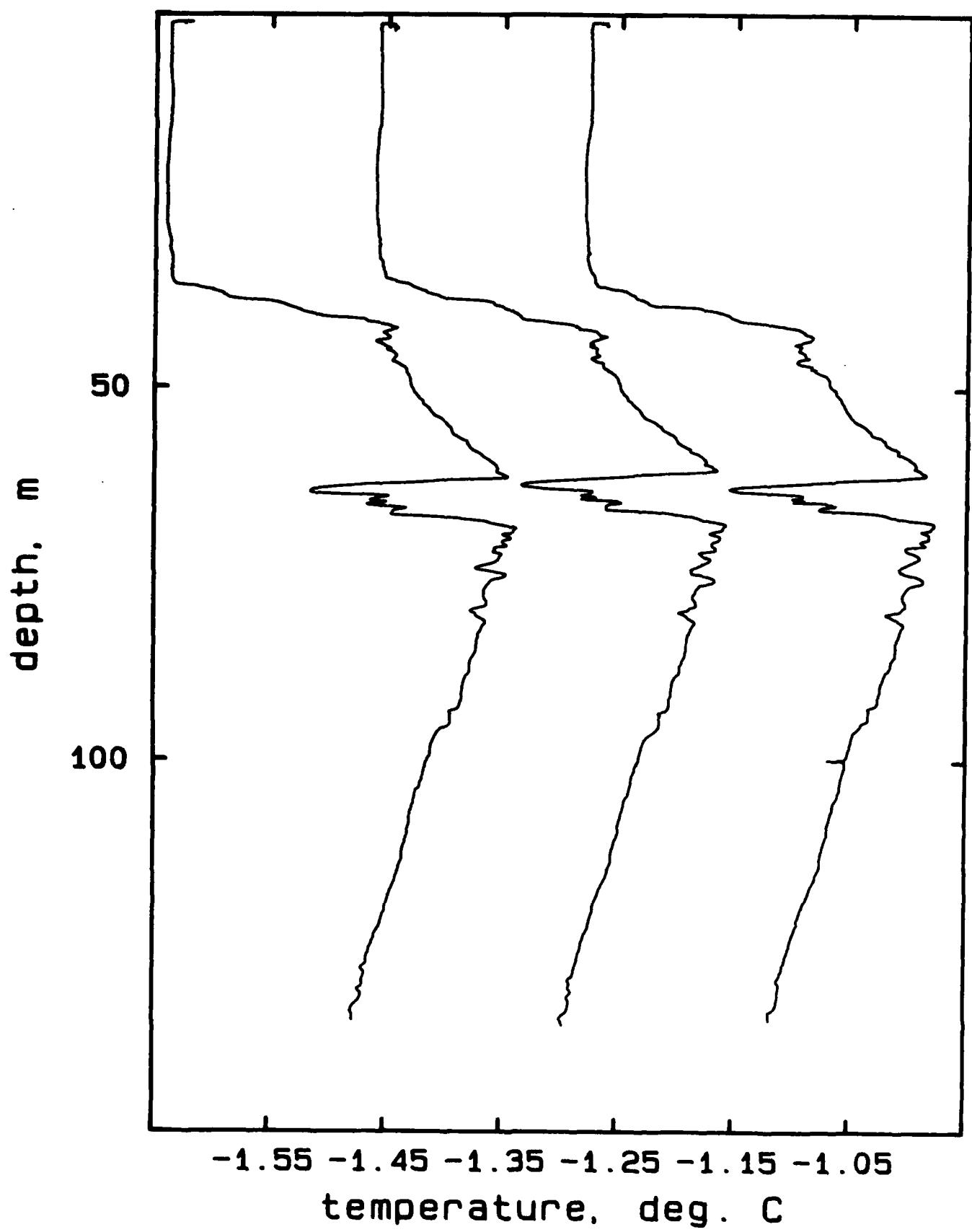
## AR419A, drops 10-12



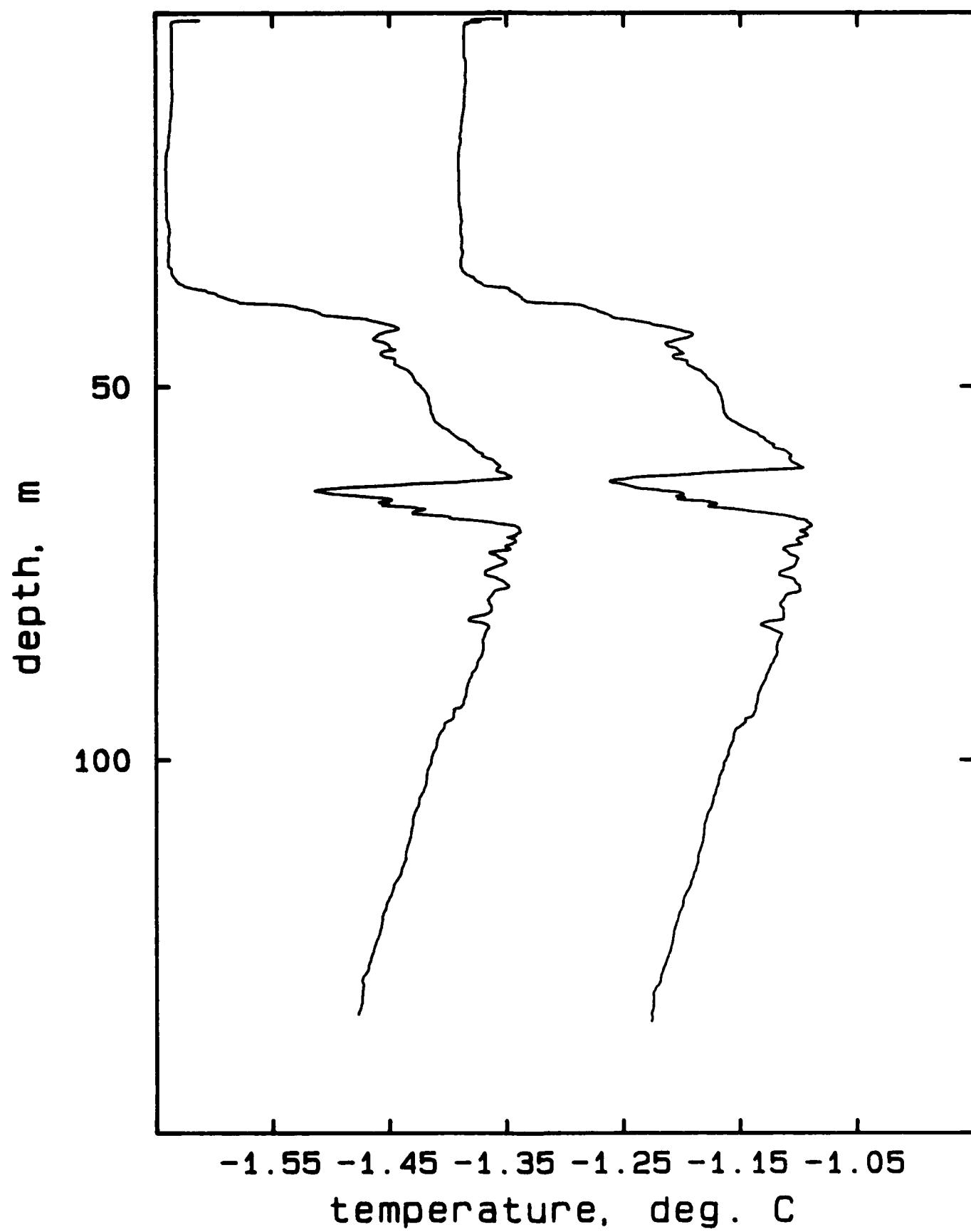
## AR419A, drops 13-15



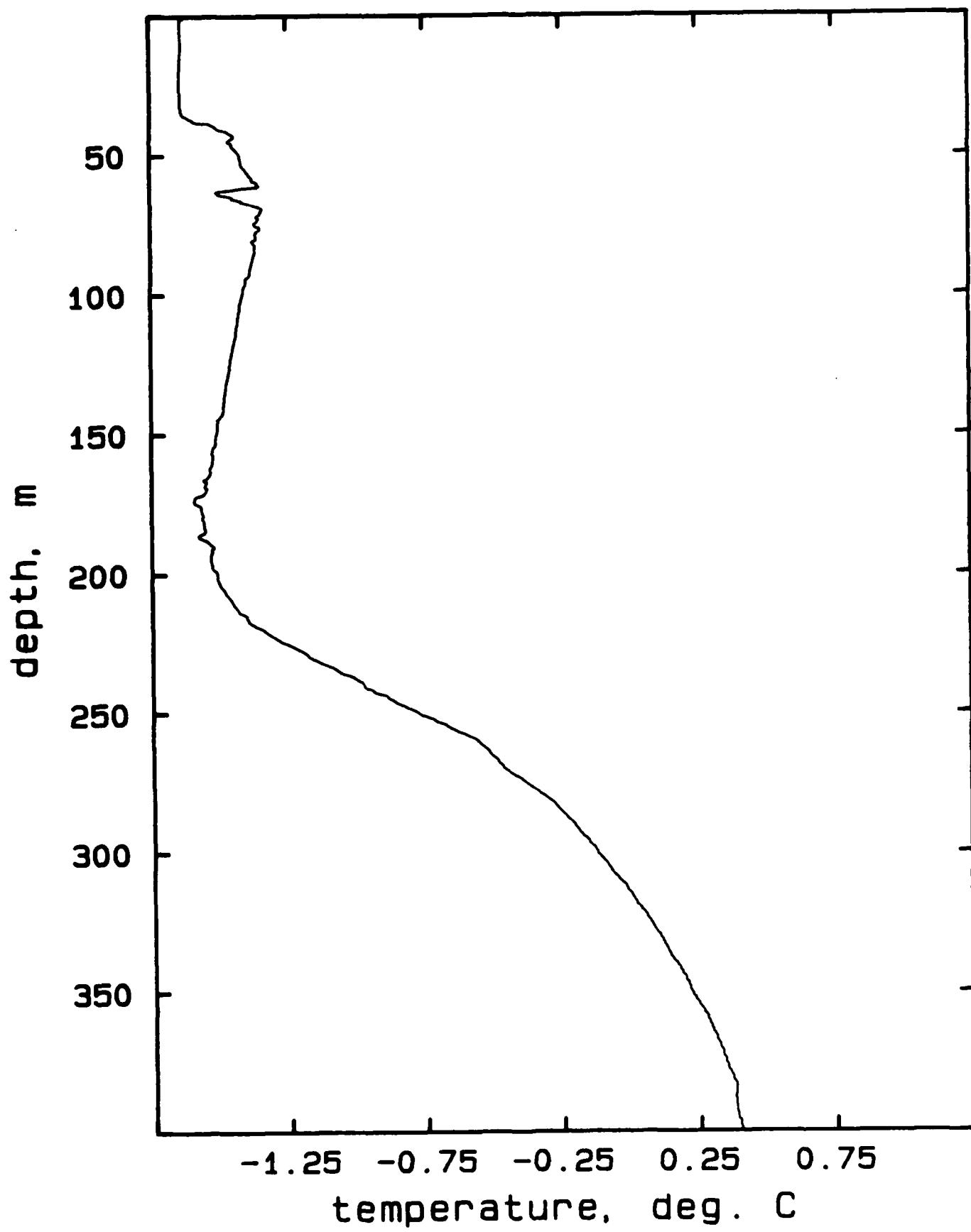
## AR419A, drops 16-18



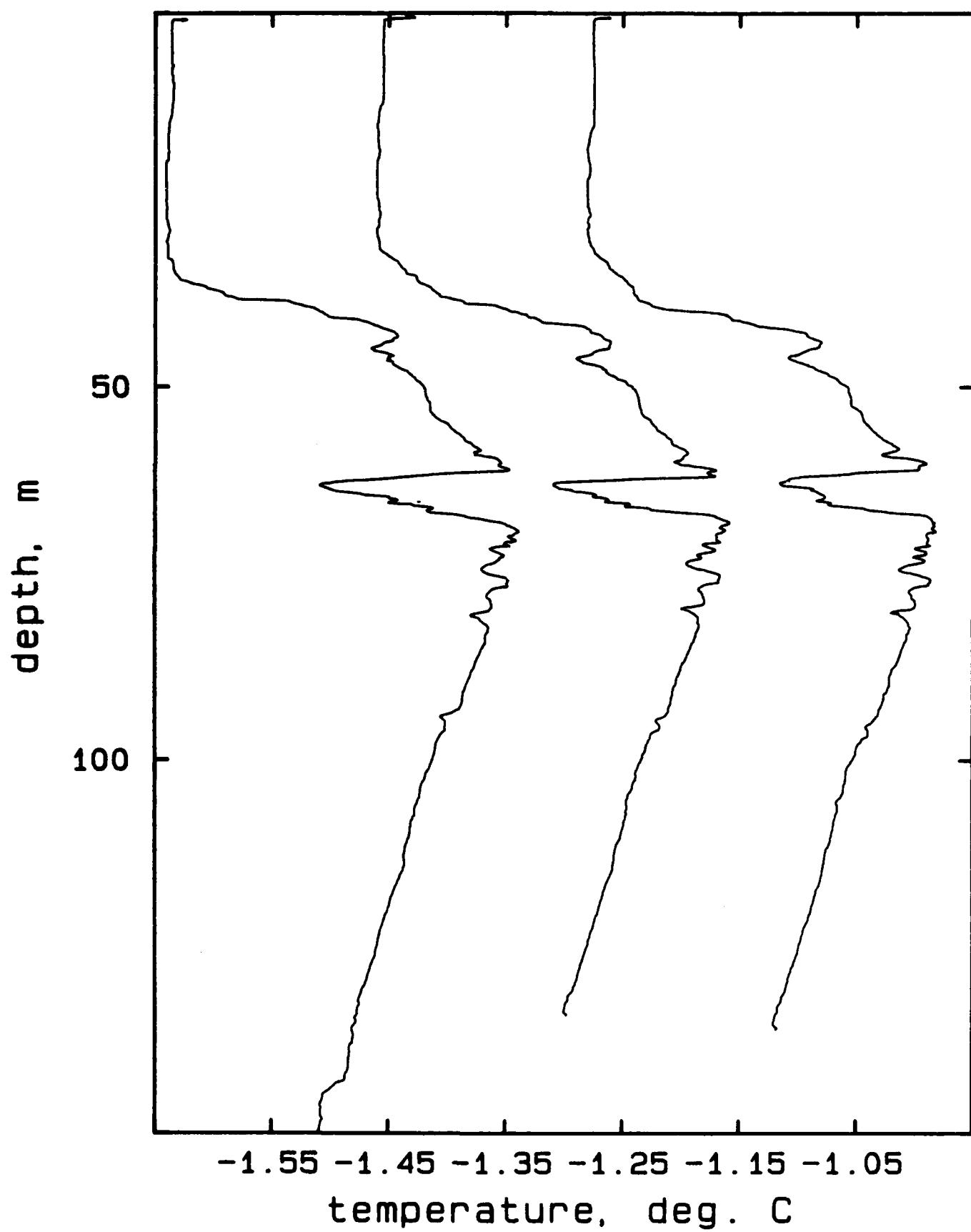
## AR419A, drops 19, 20



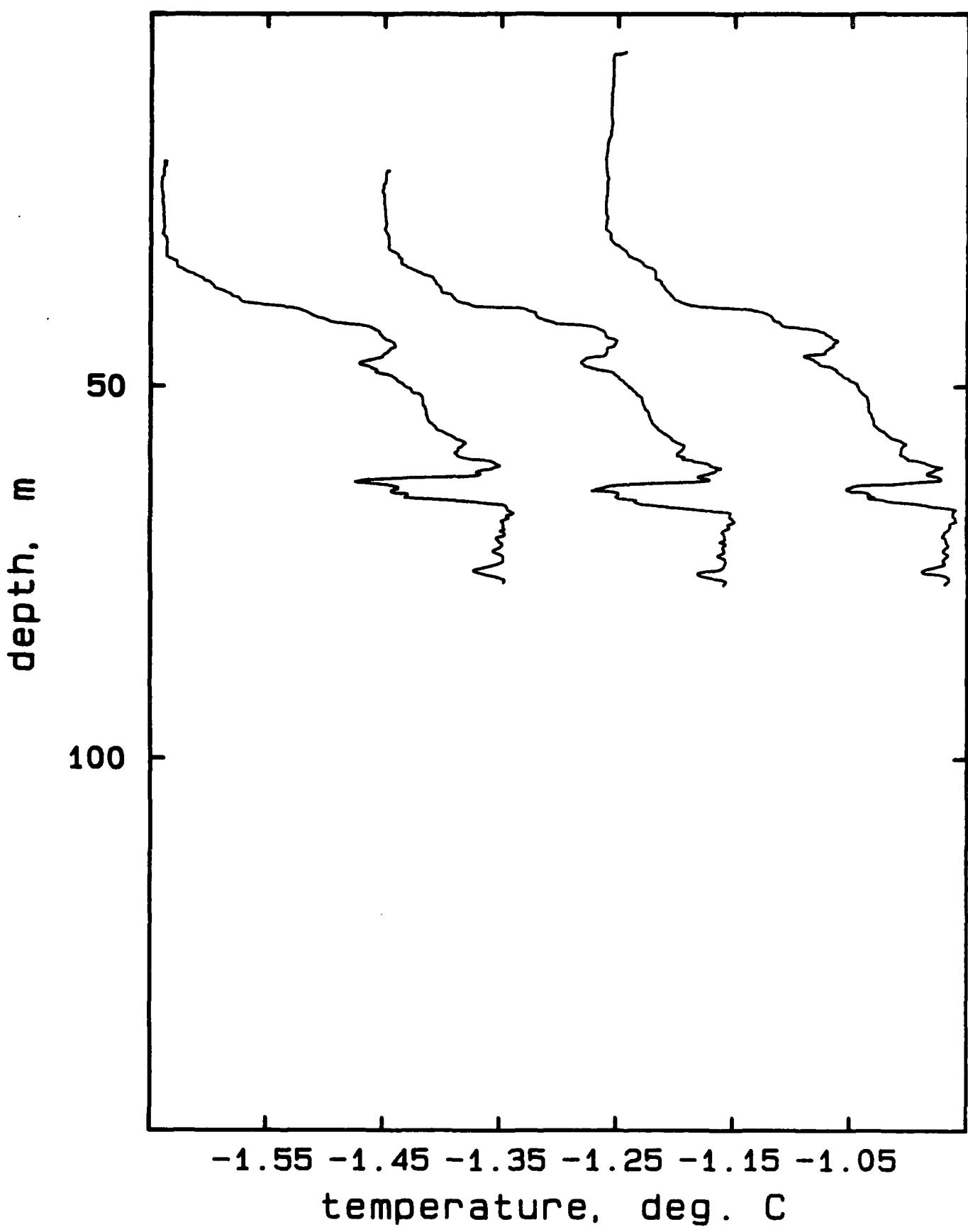
## AR419B, drop 1



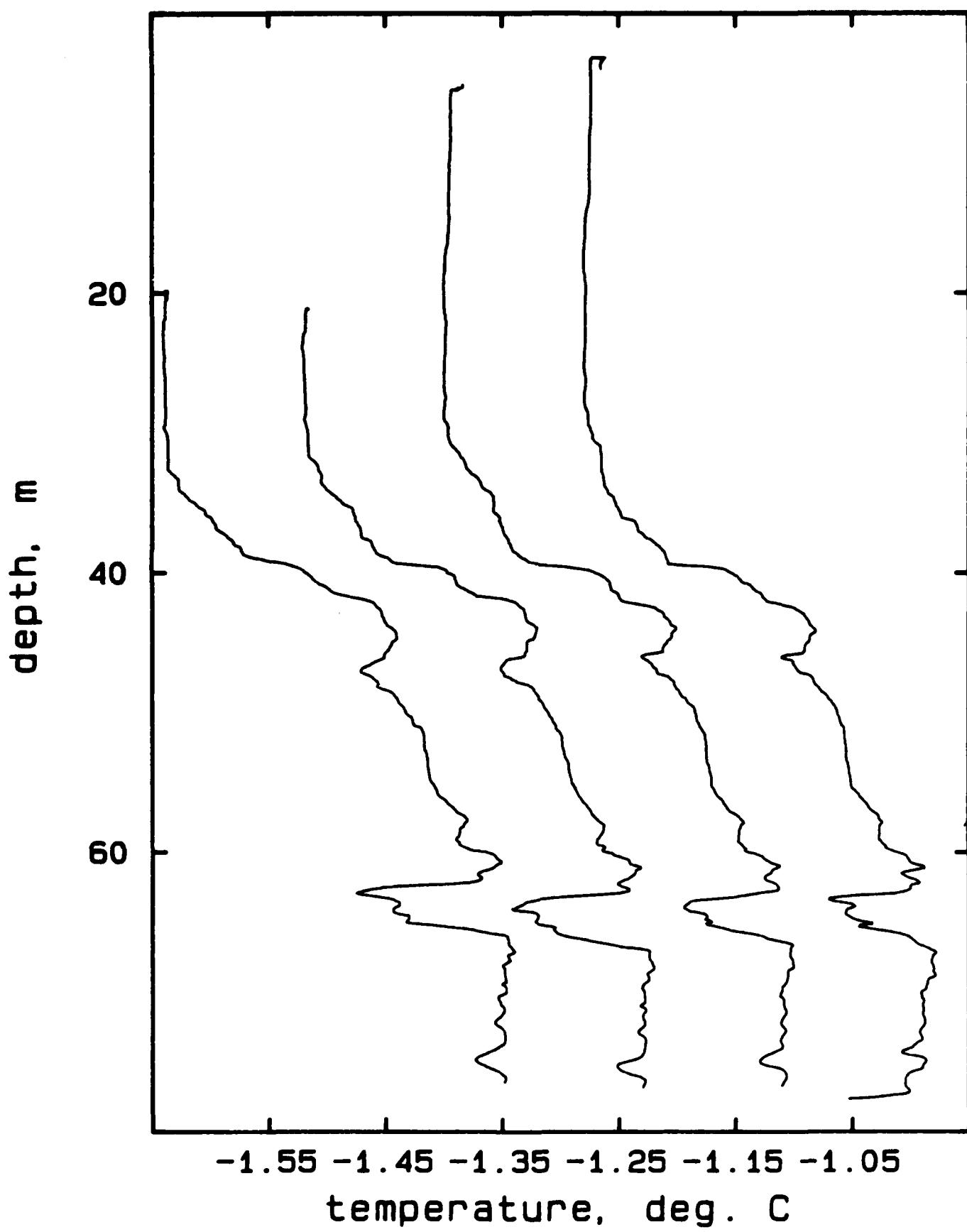
## AR419B, drops 1-3



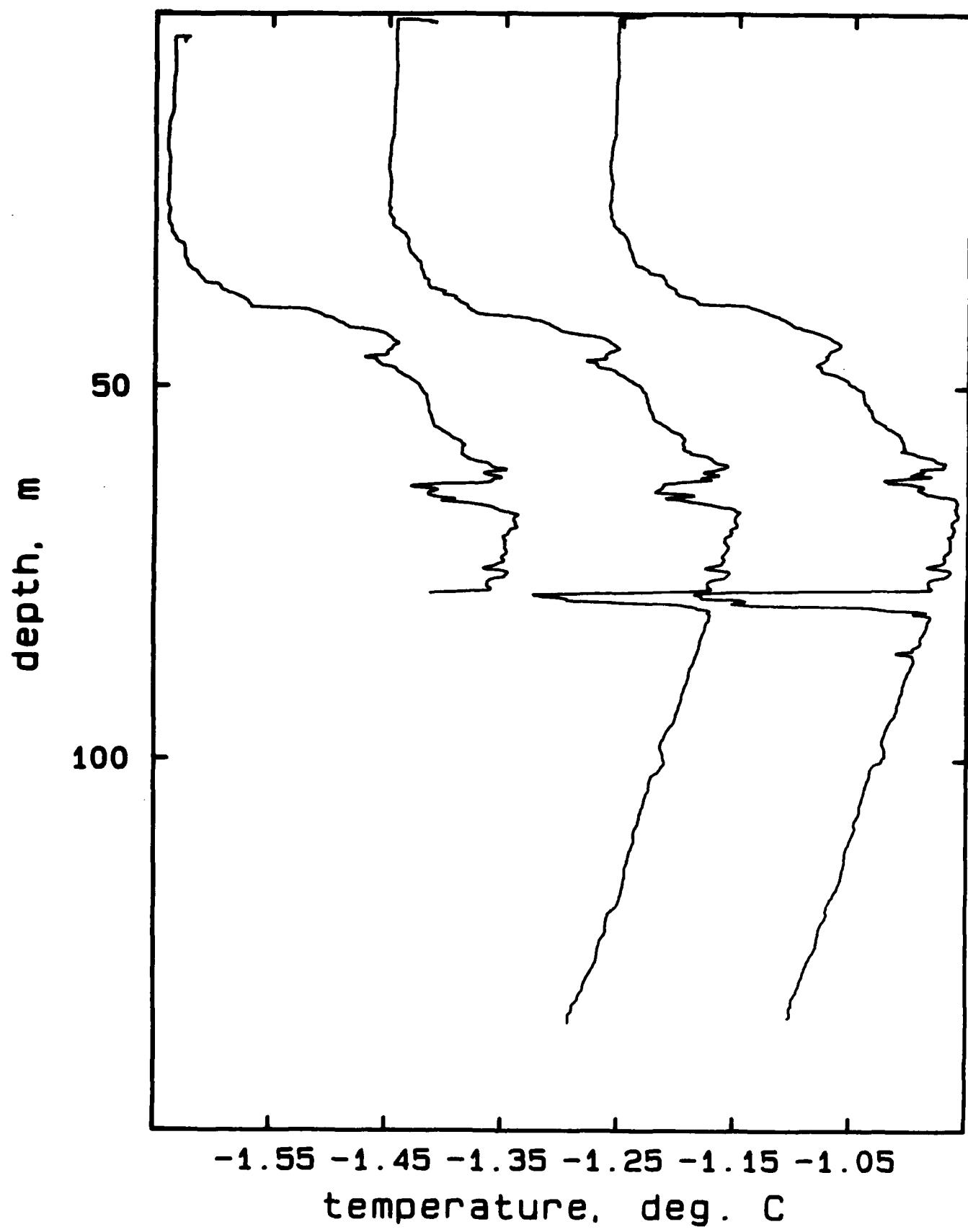
## AR419B, drops 4, 5, 7



## AR419B, drops 4, 5, 7, 8

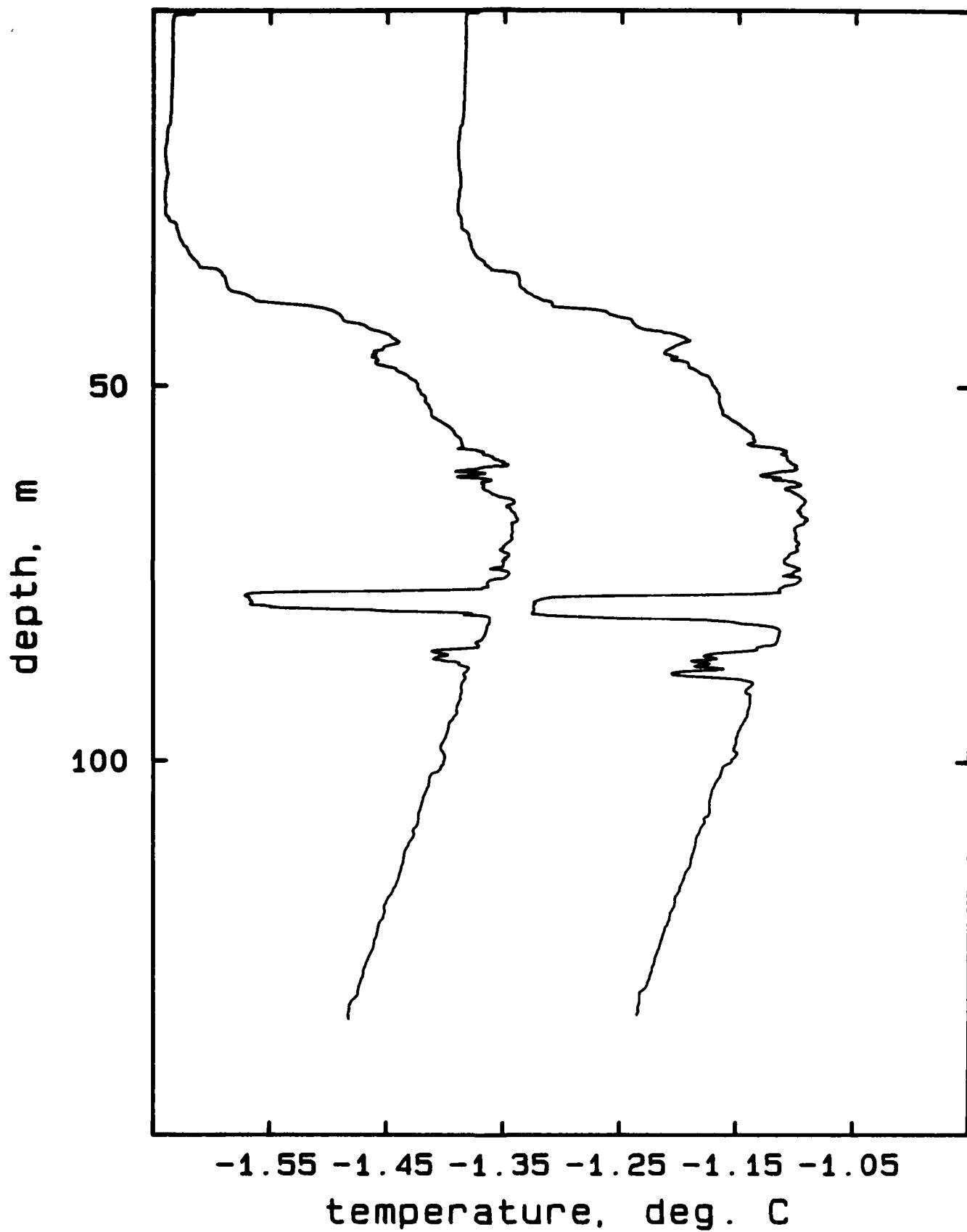


## AR419B, drops 8-10

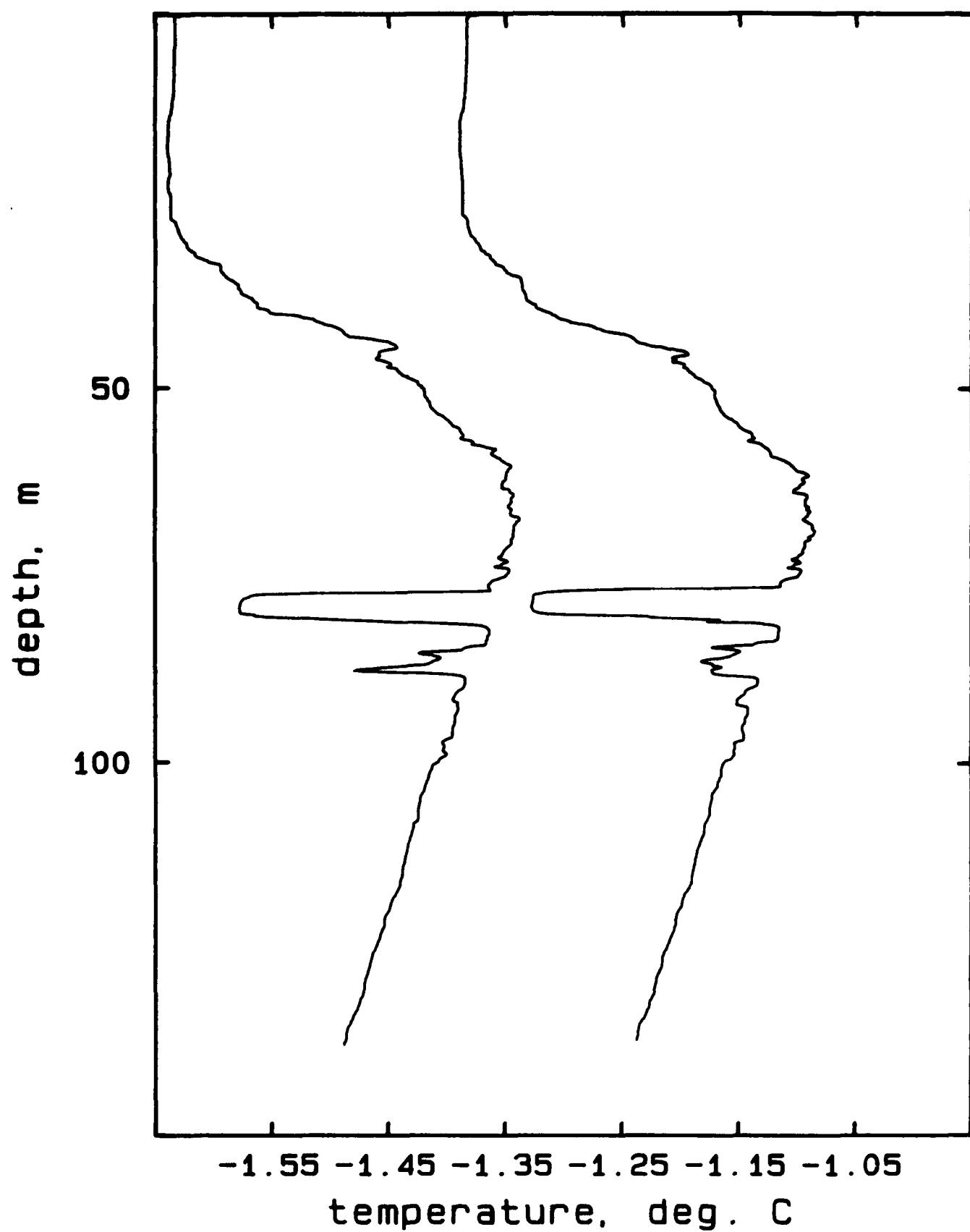


230

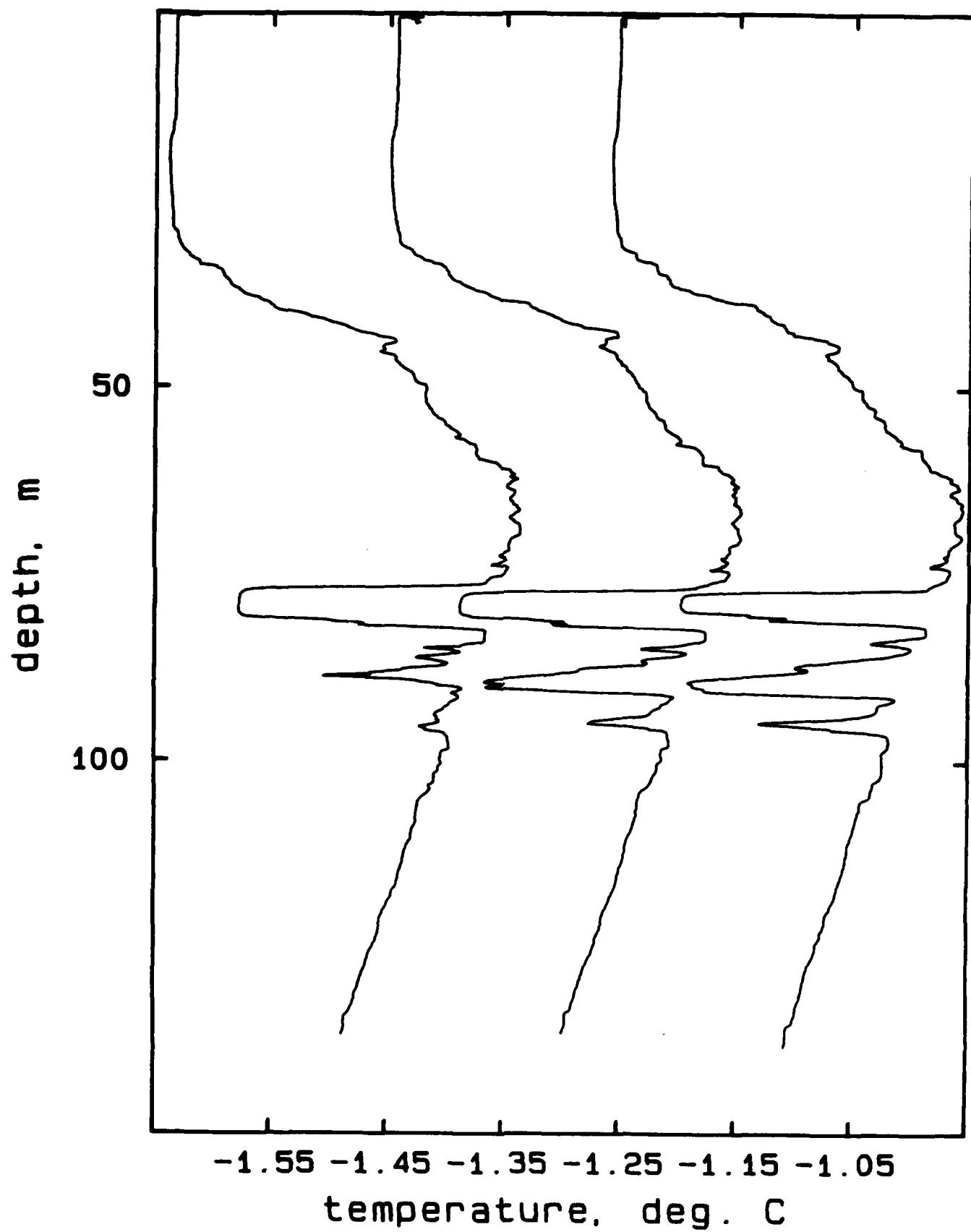
AR419B, drops 11, 12



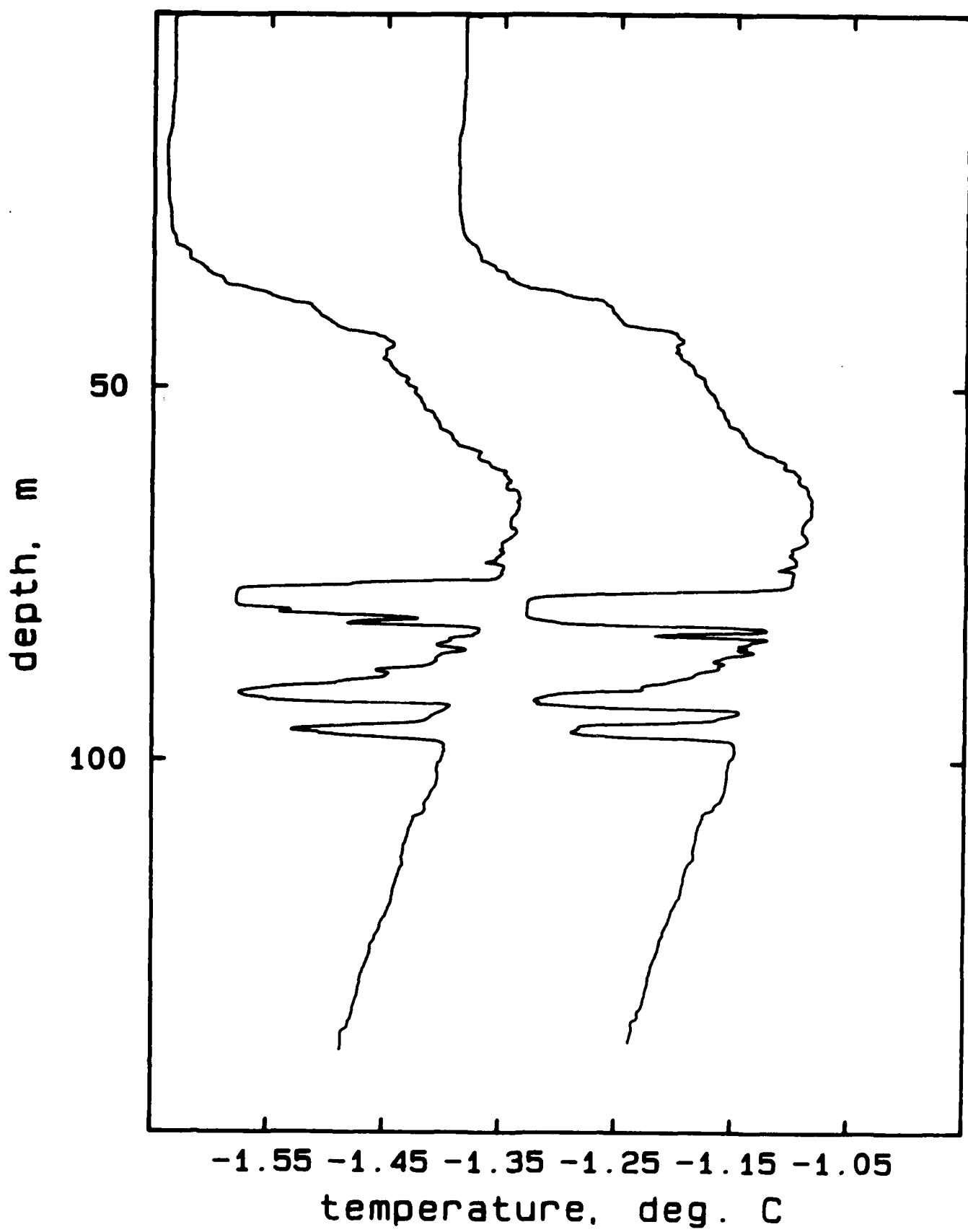
## AR419B, drops 13, 14



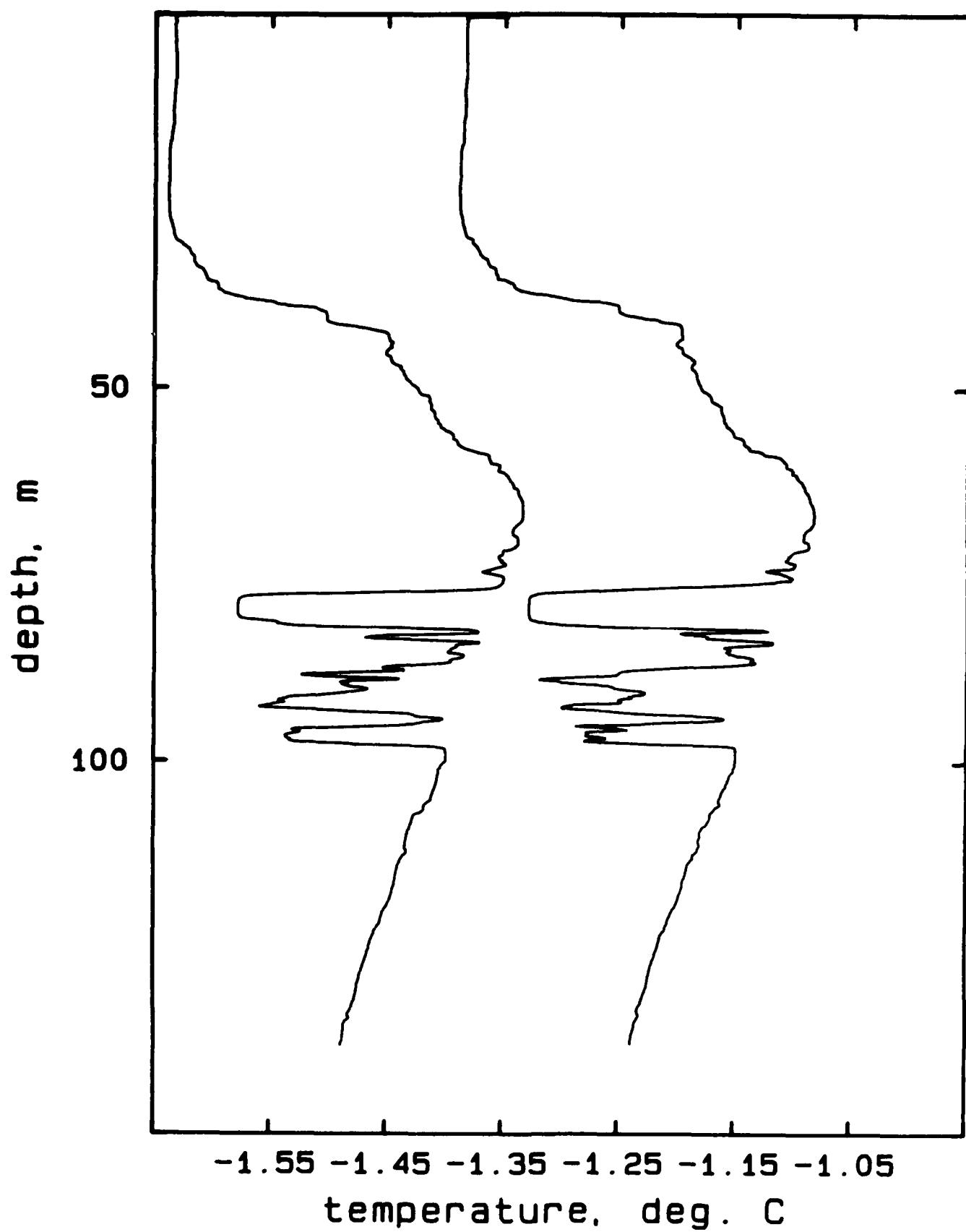
## AR419B, drops 15-17



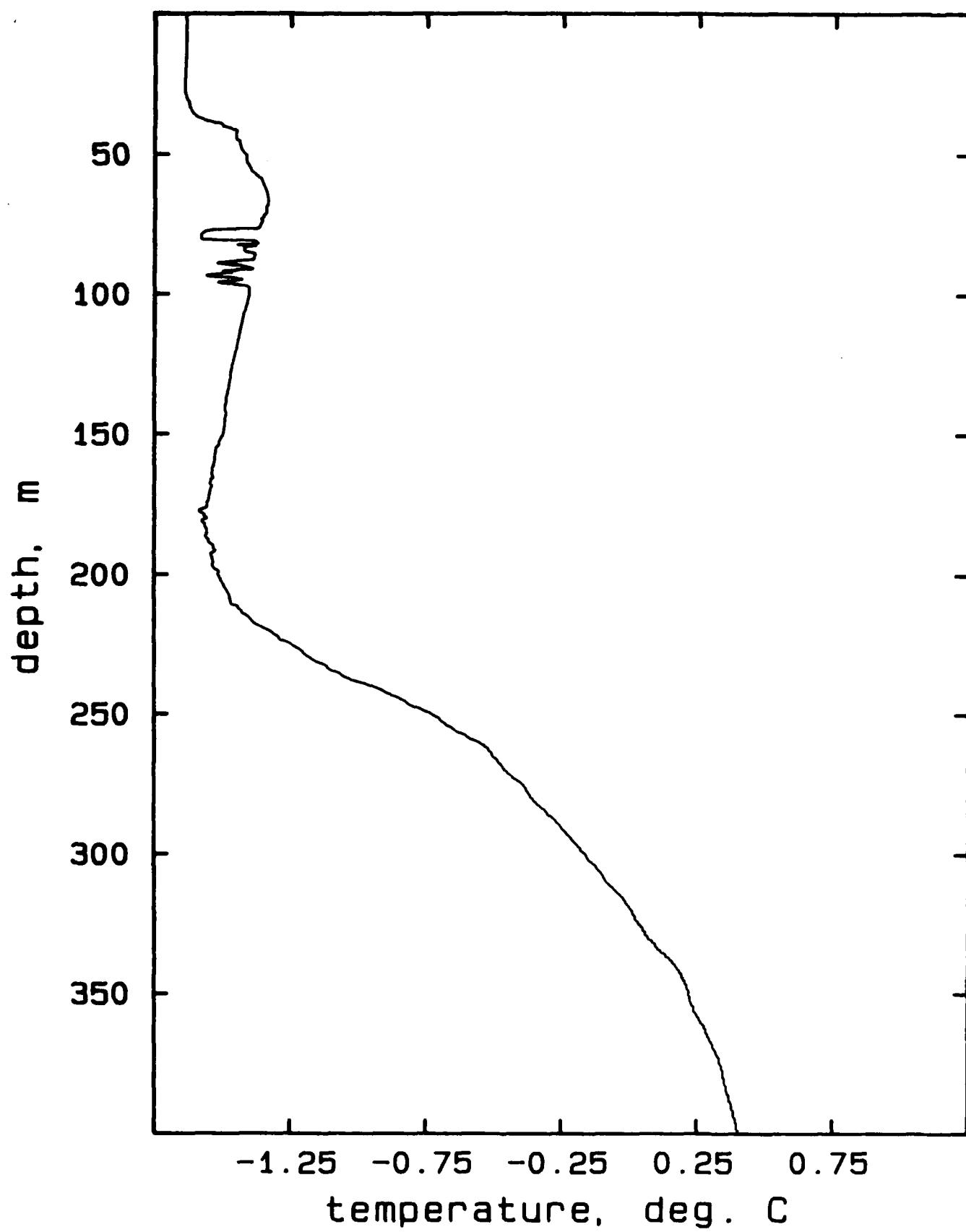
## AR4198, drops 18, 19



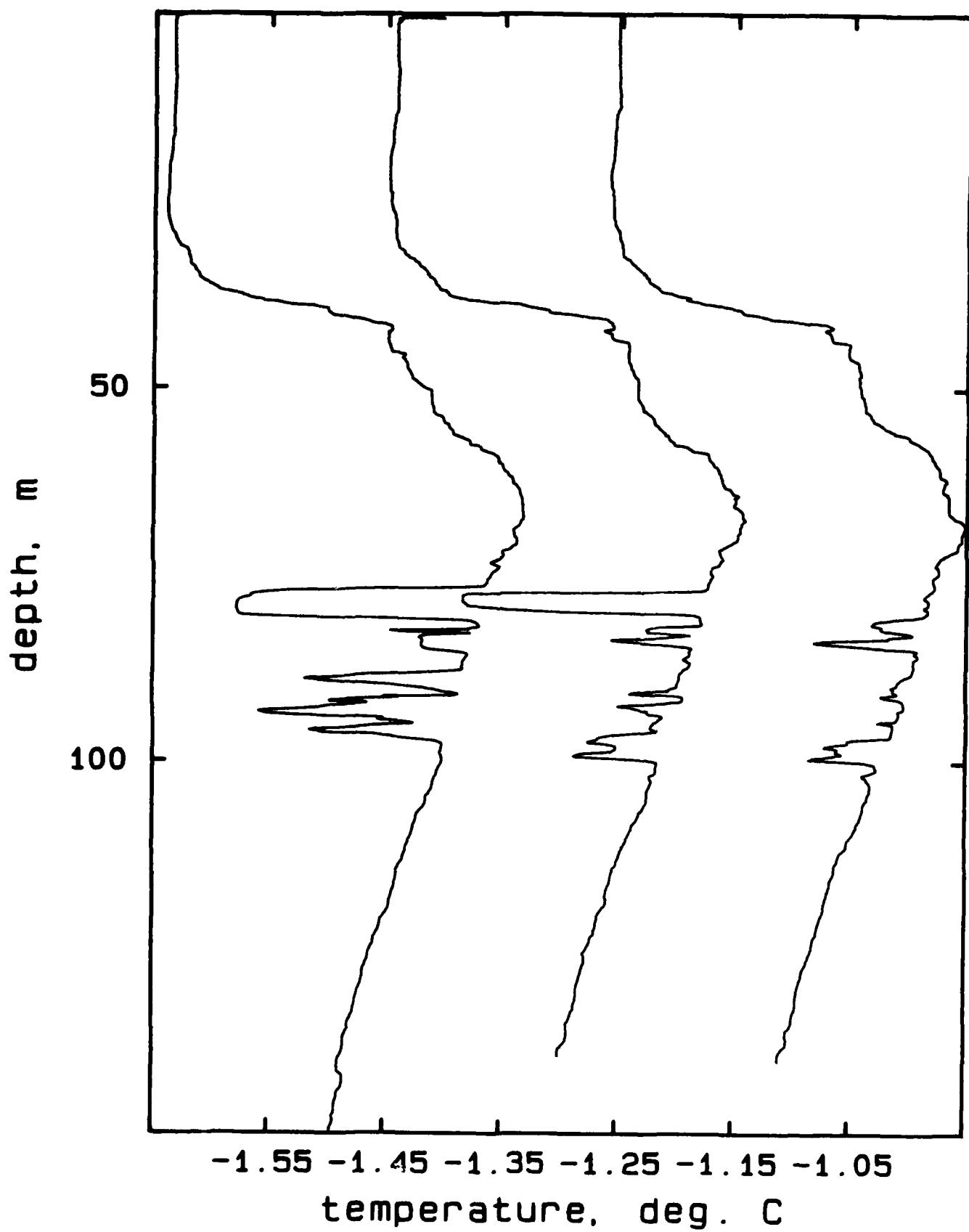
## AR419B, drops 20, 21



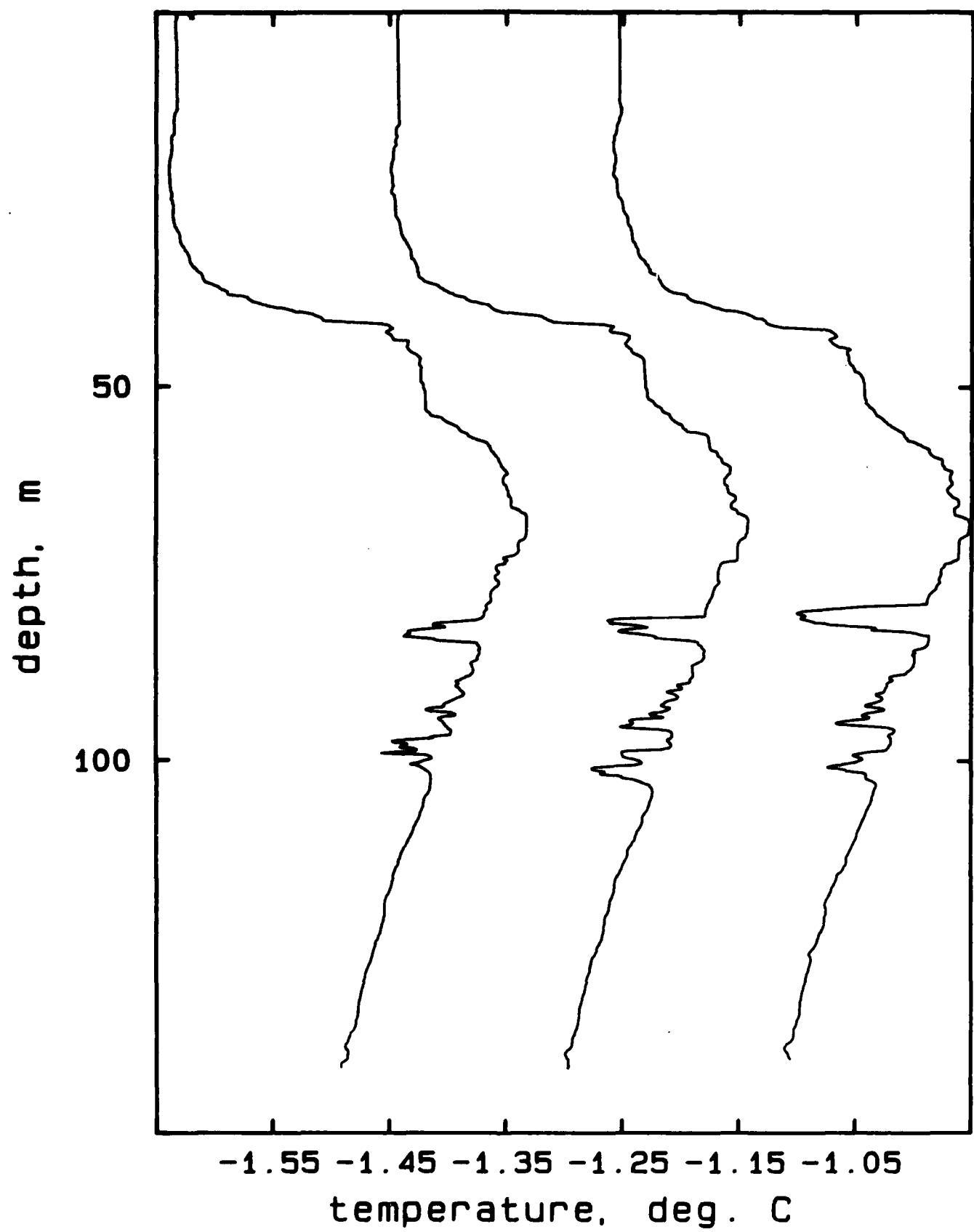
## AR419C, drop 1



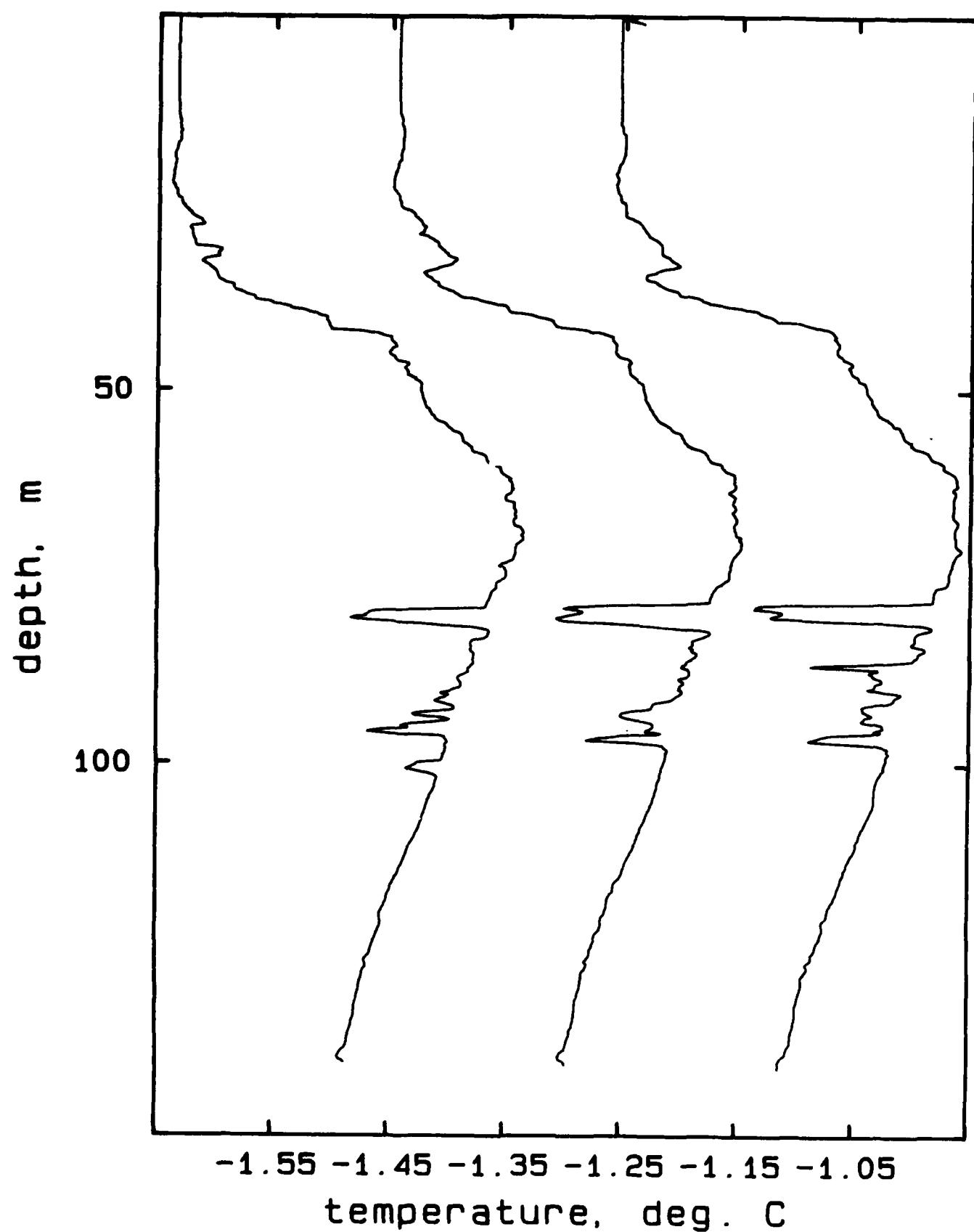
## AR419C, drops 1-3



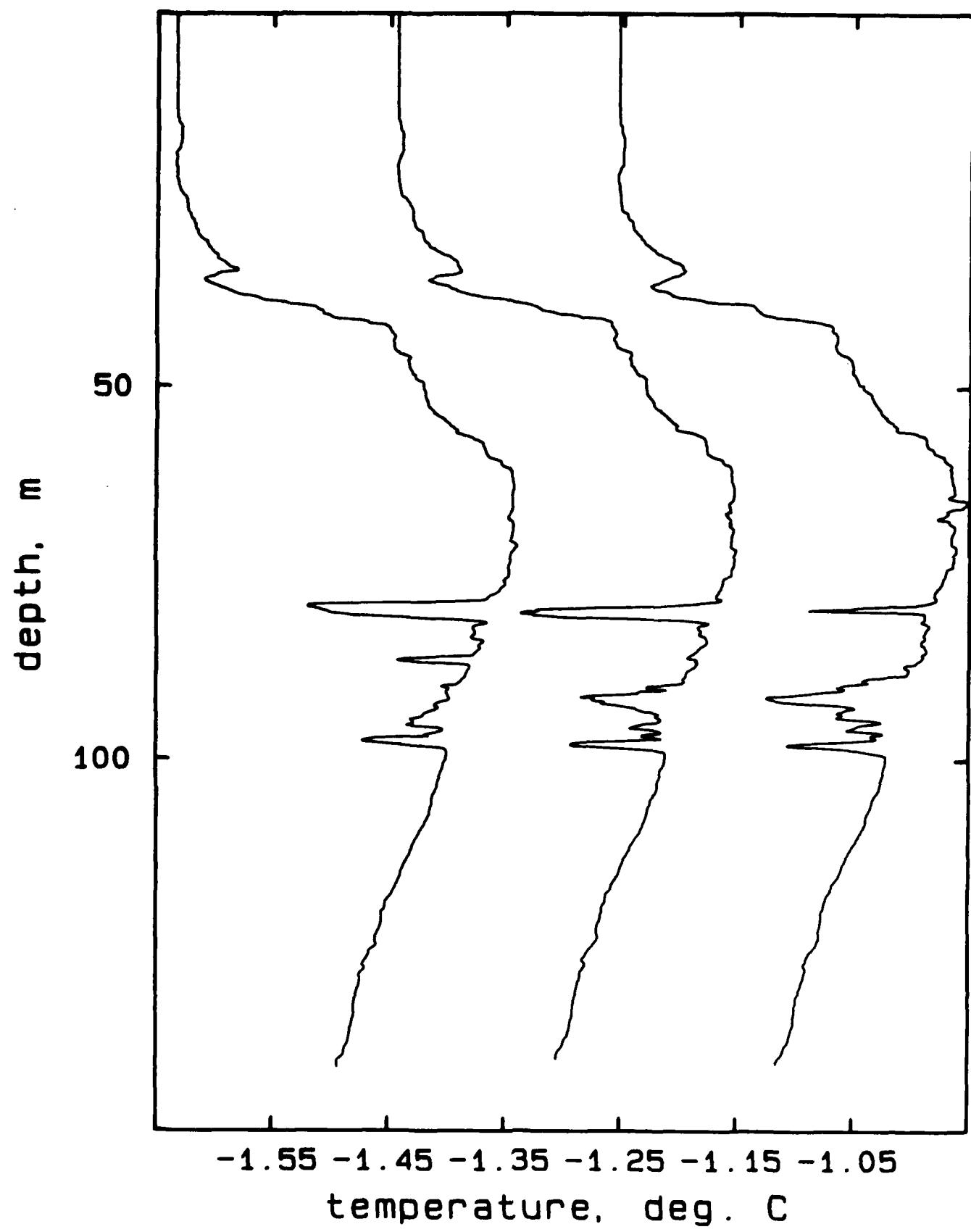
## AR419C, drops 4-6



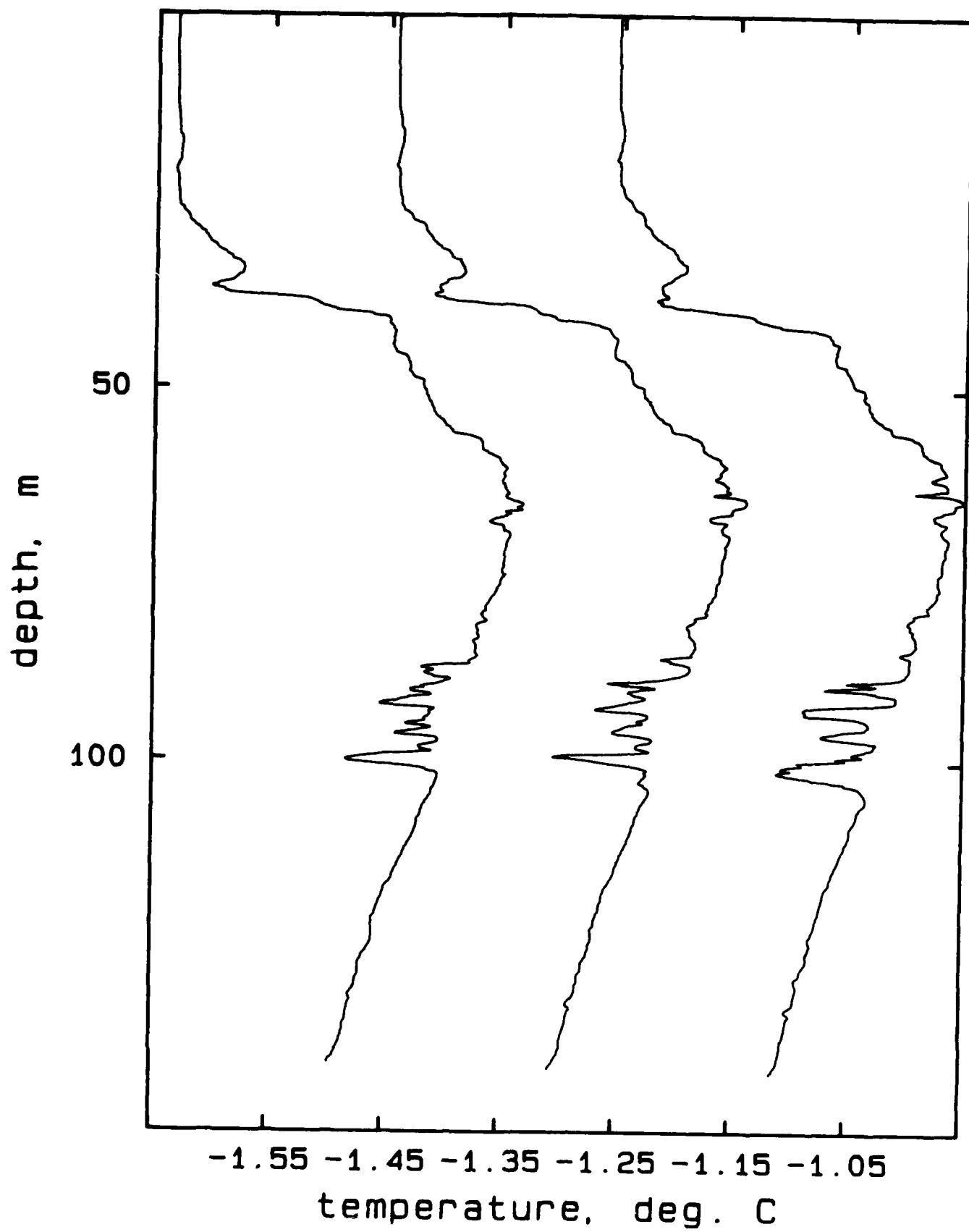
## AR419C, drops 7-9



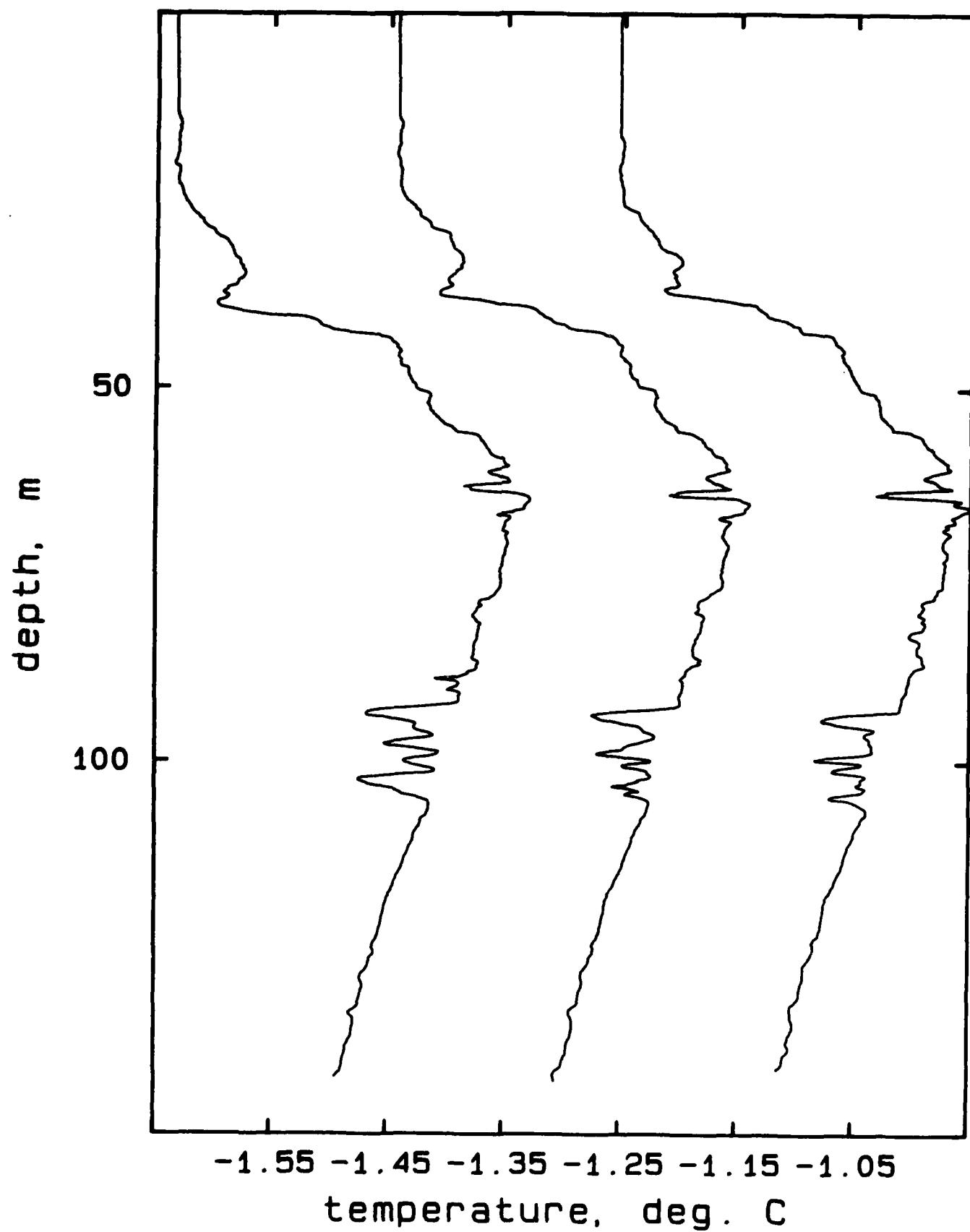
## AR419C, drops 10-12



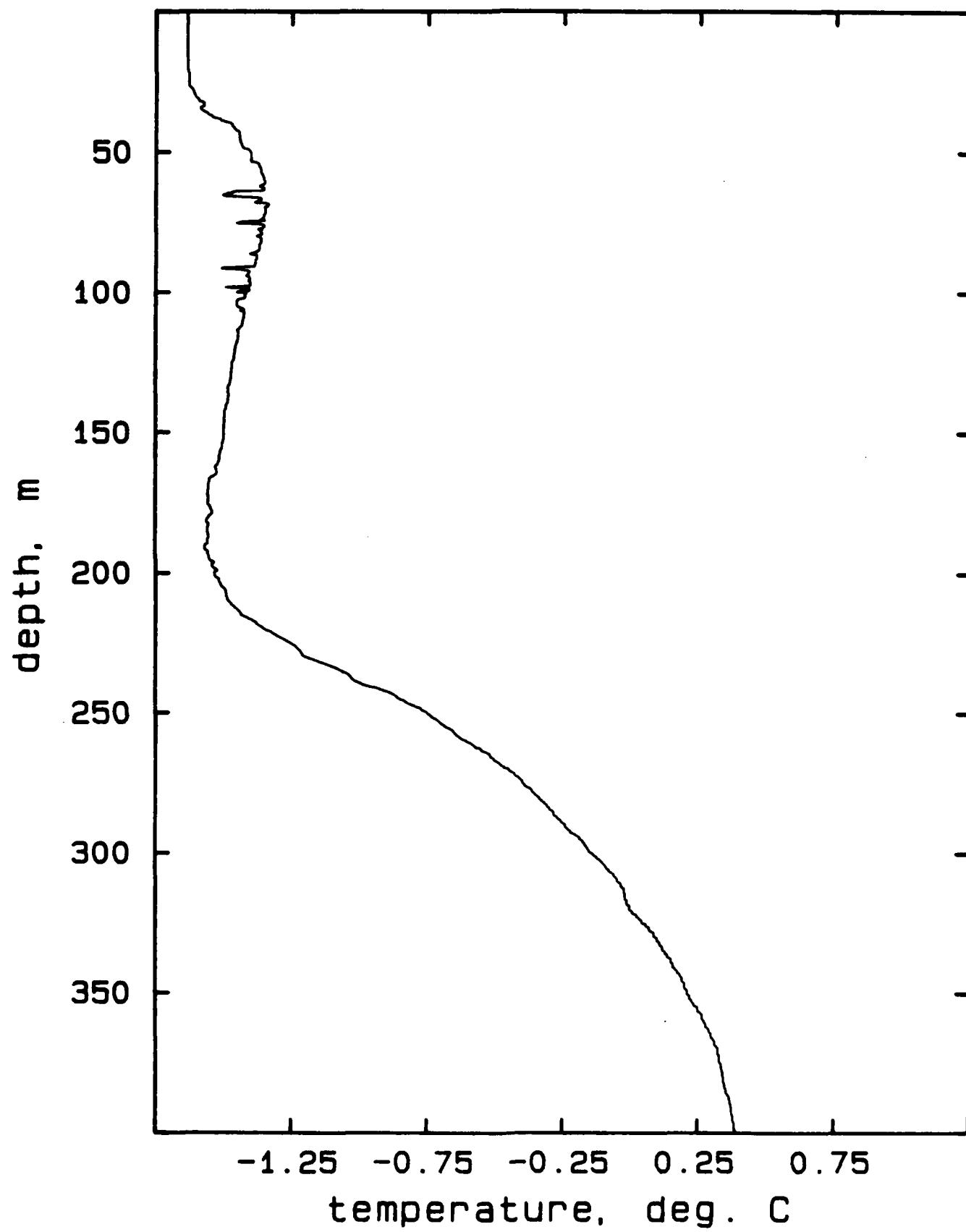
## AR419C, drops 13-15



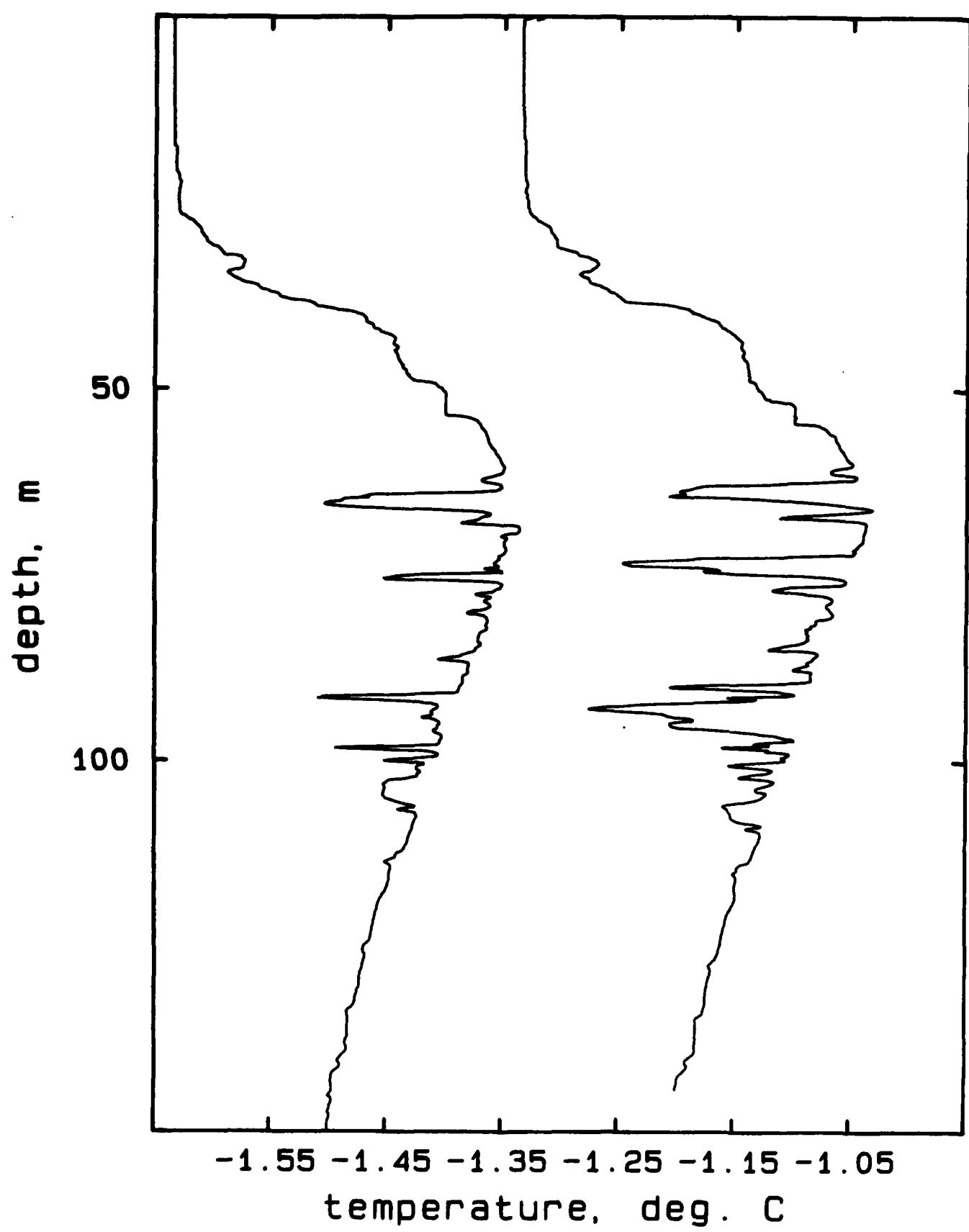
## AR419C, drops 16-18



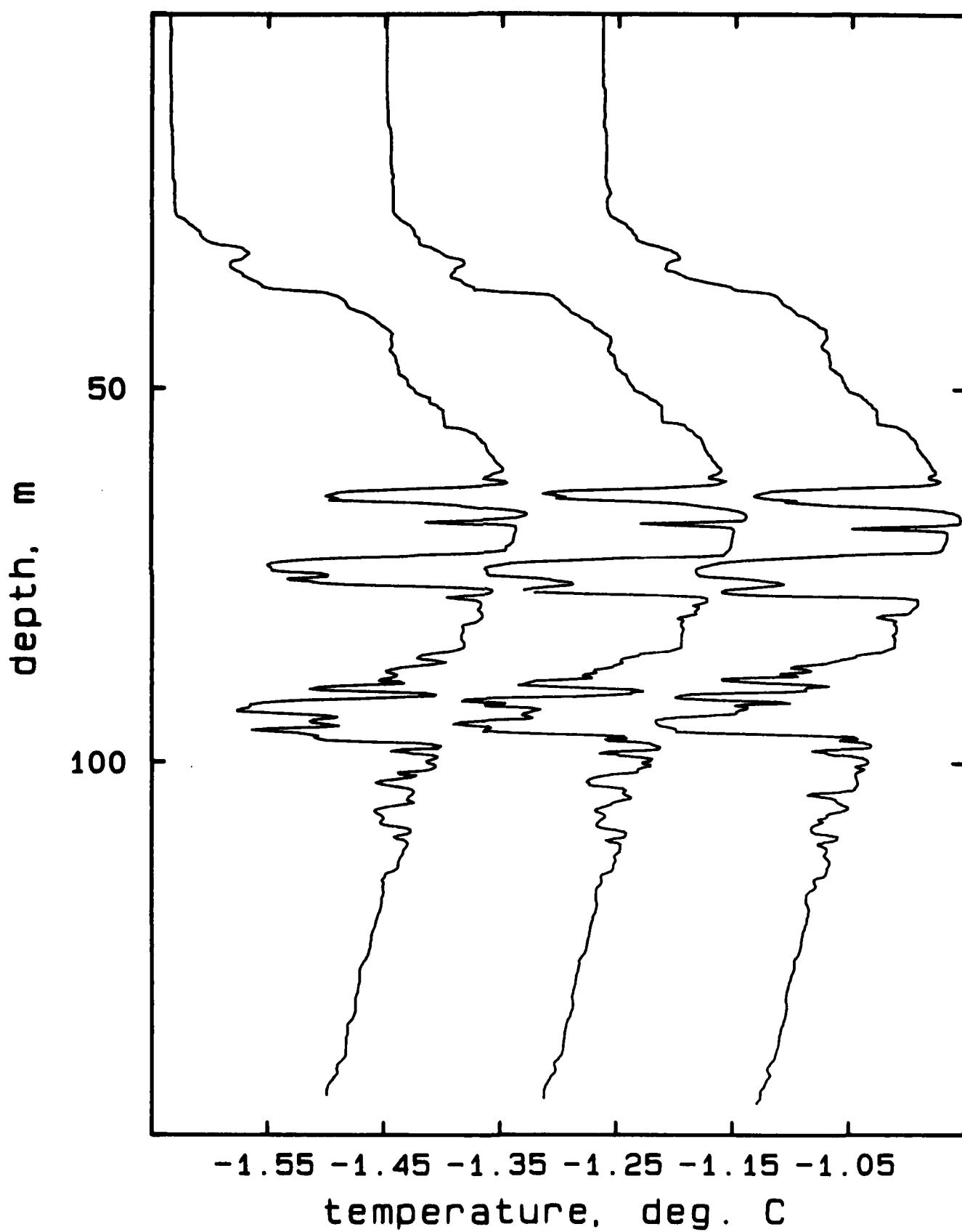
## AR419D, drop 1



## AR419D, drops 1, 2

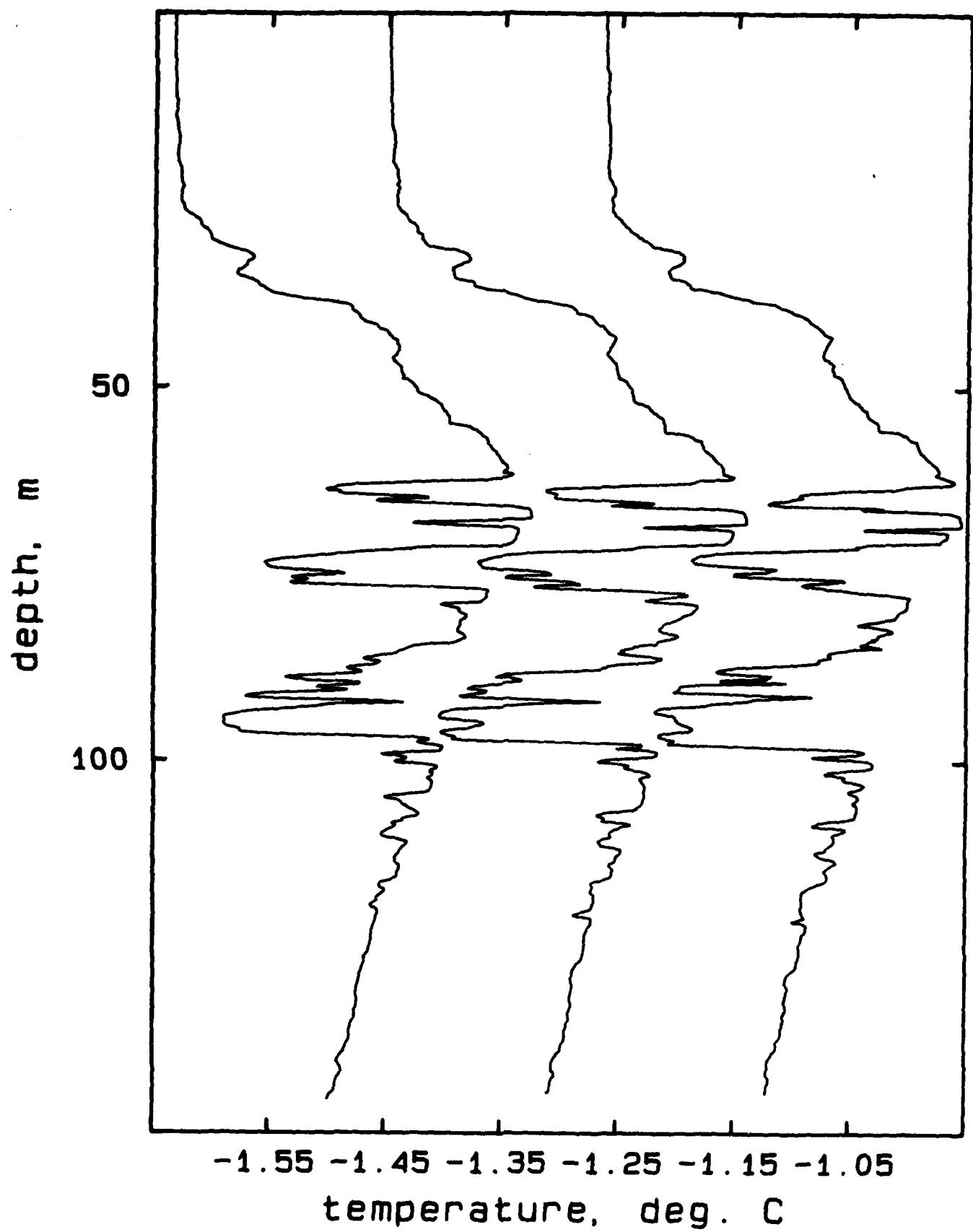


## AR419D, drops 3-5



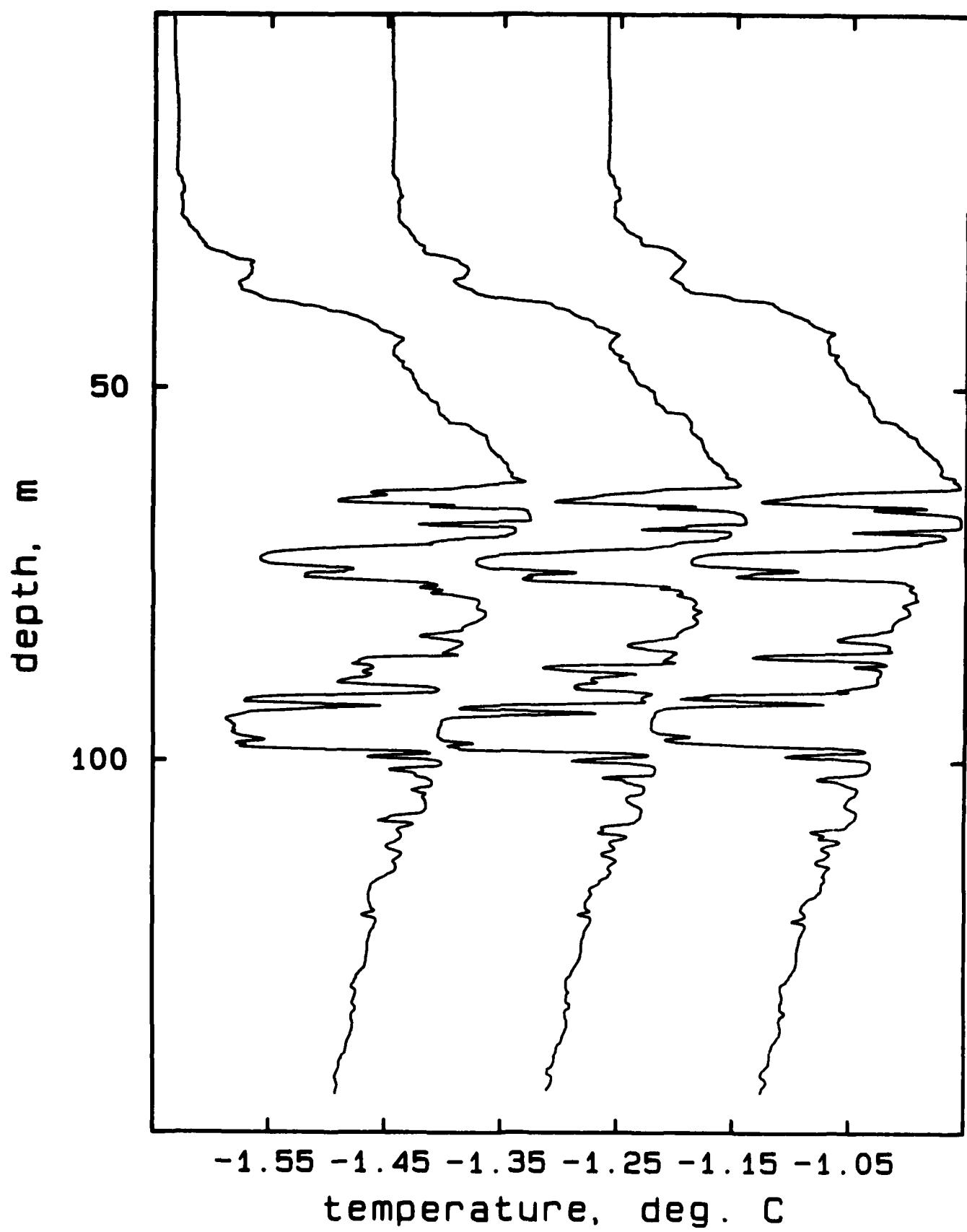
245

AR419D, drops 6-8

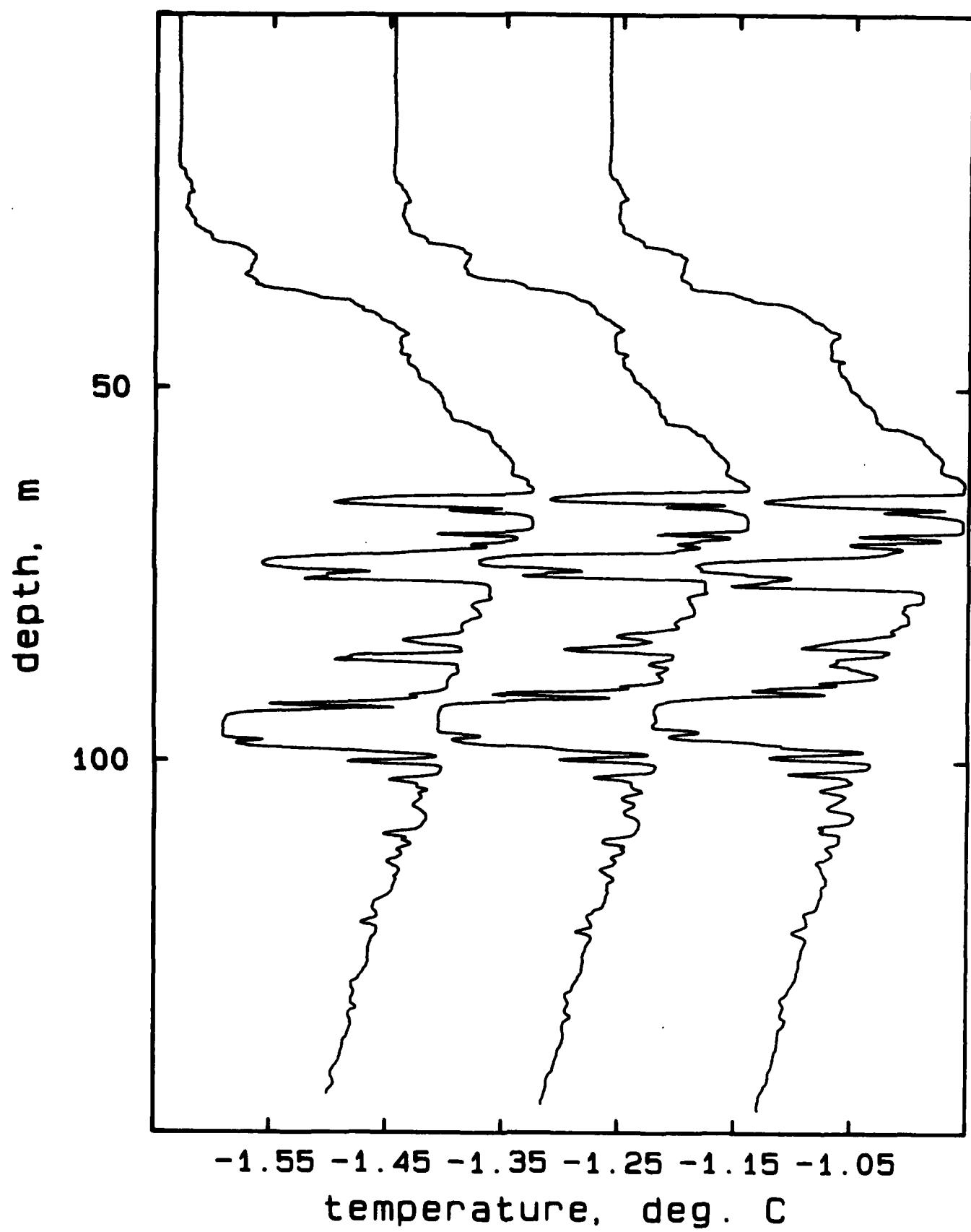


245 244 243 242 241 240 239 238 237 236 235 234 233 232 231 230 229 228 227 226 225 224 223 222 221 220 219 218 217 216 215 214 213 212 211 210 209 208 207 206 205 204 203 202 201 200 199 198 197 196 195 194 193 192 191 190 189 188 187 186 185 184 183 182 181 180 179 178 177 176 175 174 173 172 171 170 169 168 167 166 165 164 163 162 161 160 159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120 119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

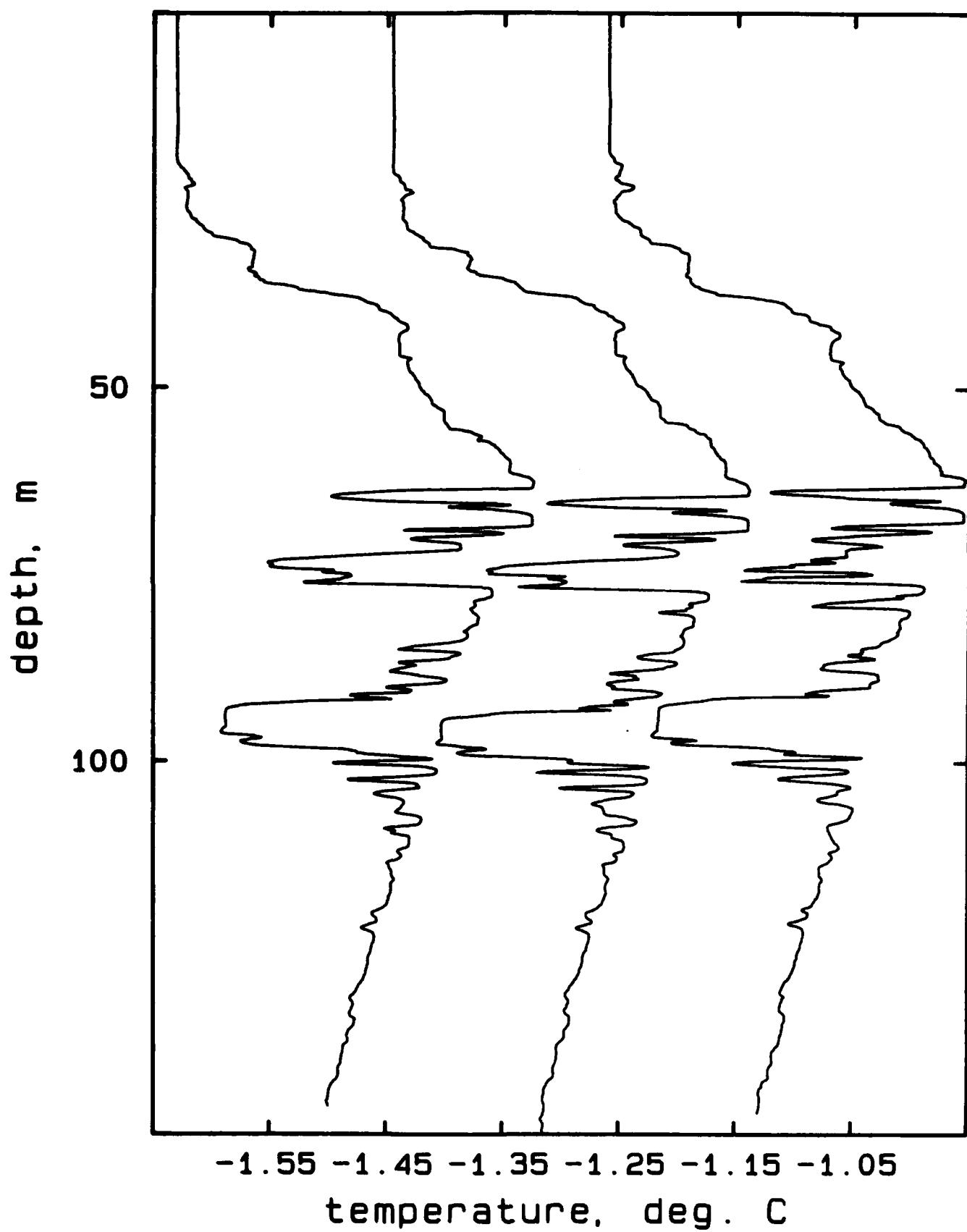
## AR419D, drops 9-11



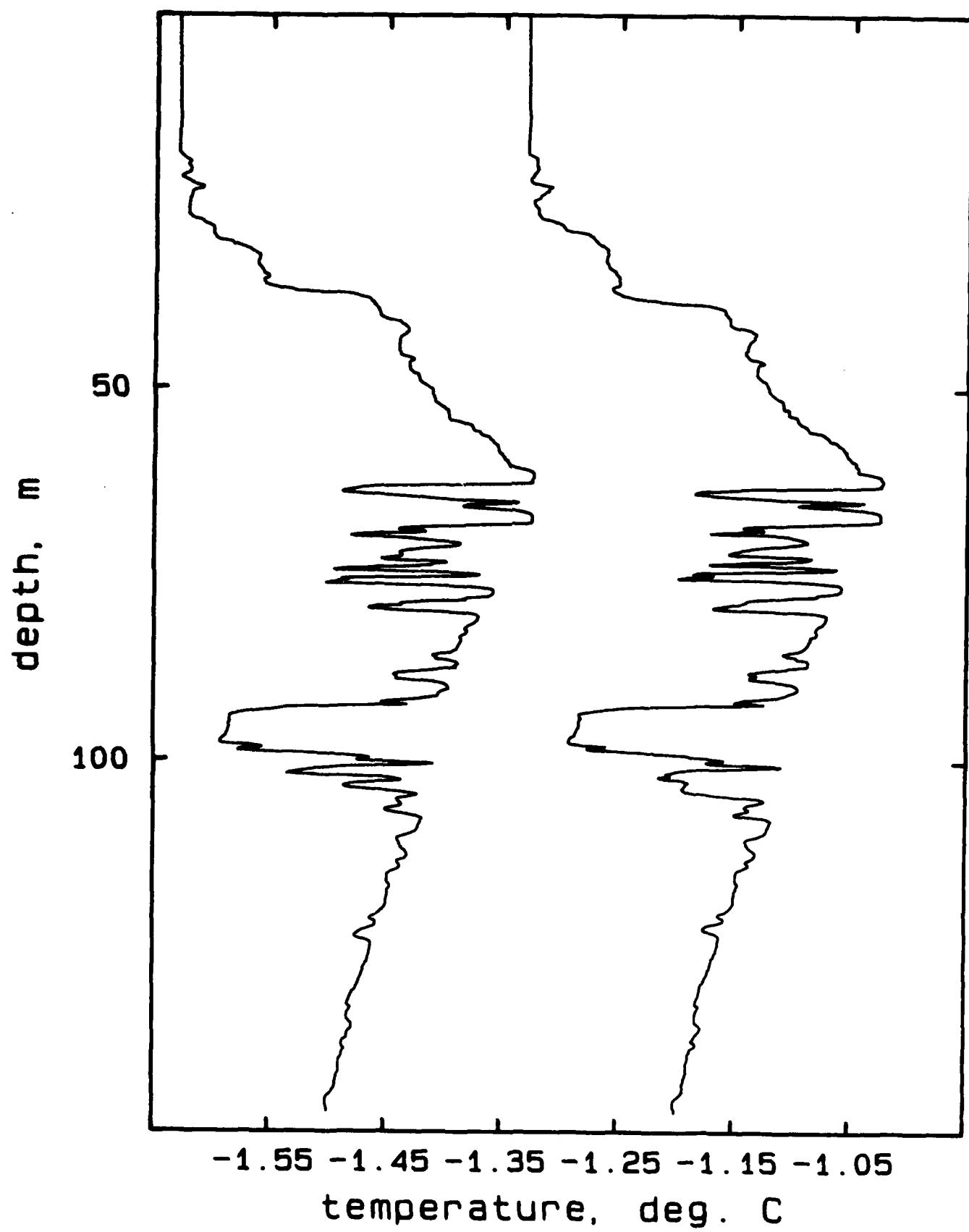
## AR419D, drops 12-14



## AR4190, drops 15-17



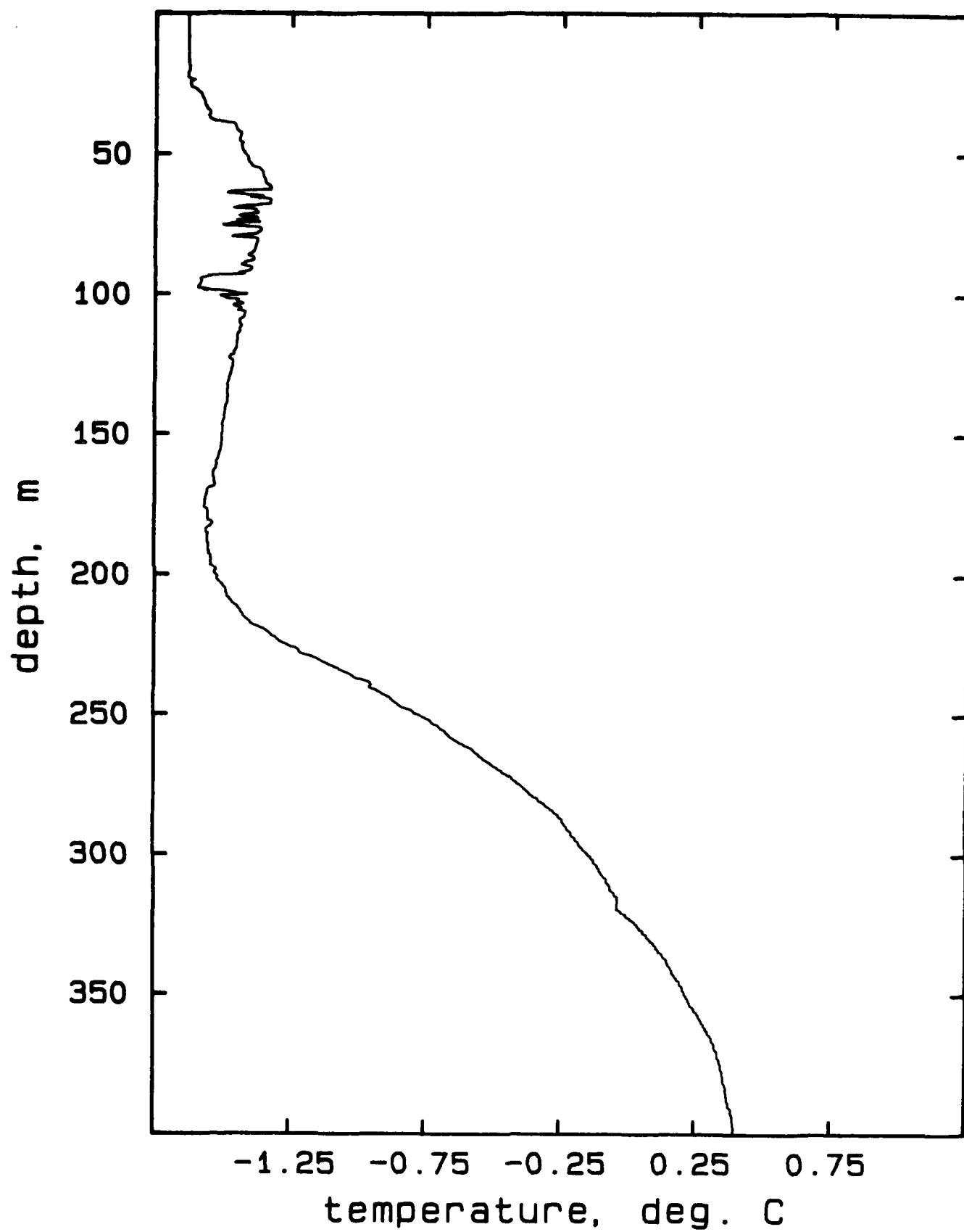
## AR419D, drops 18-19



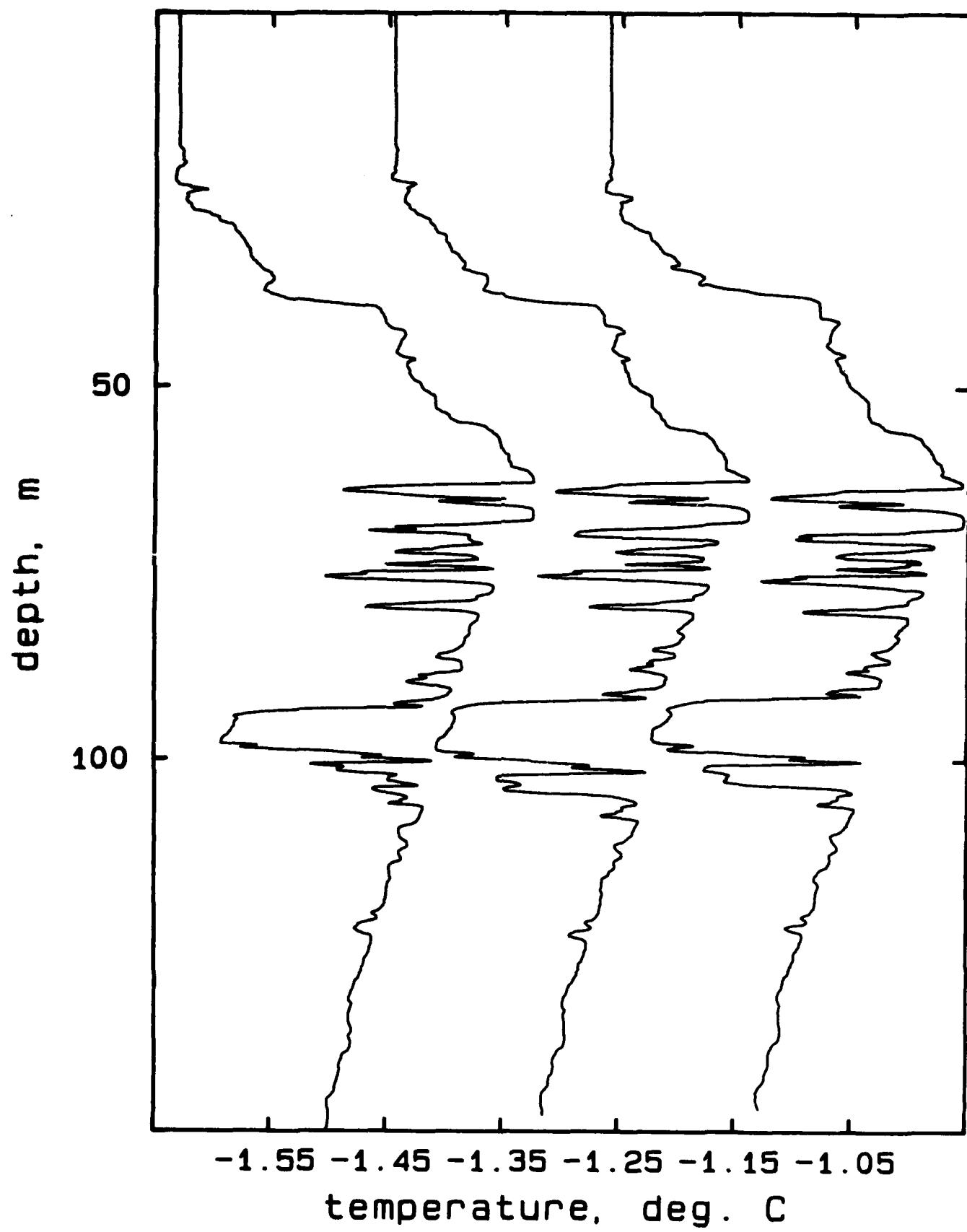
3 22 18 16 14 12 10 8 6 4 2 1

250

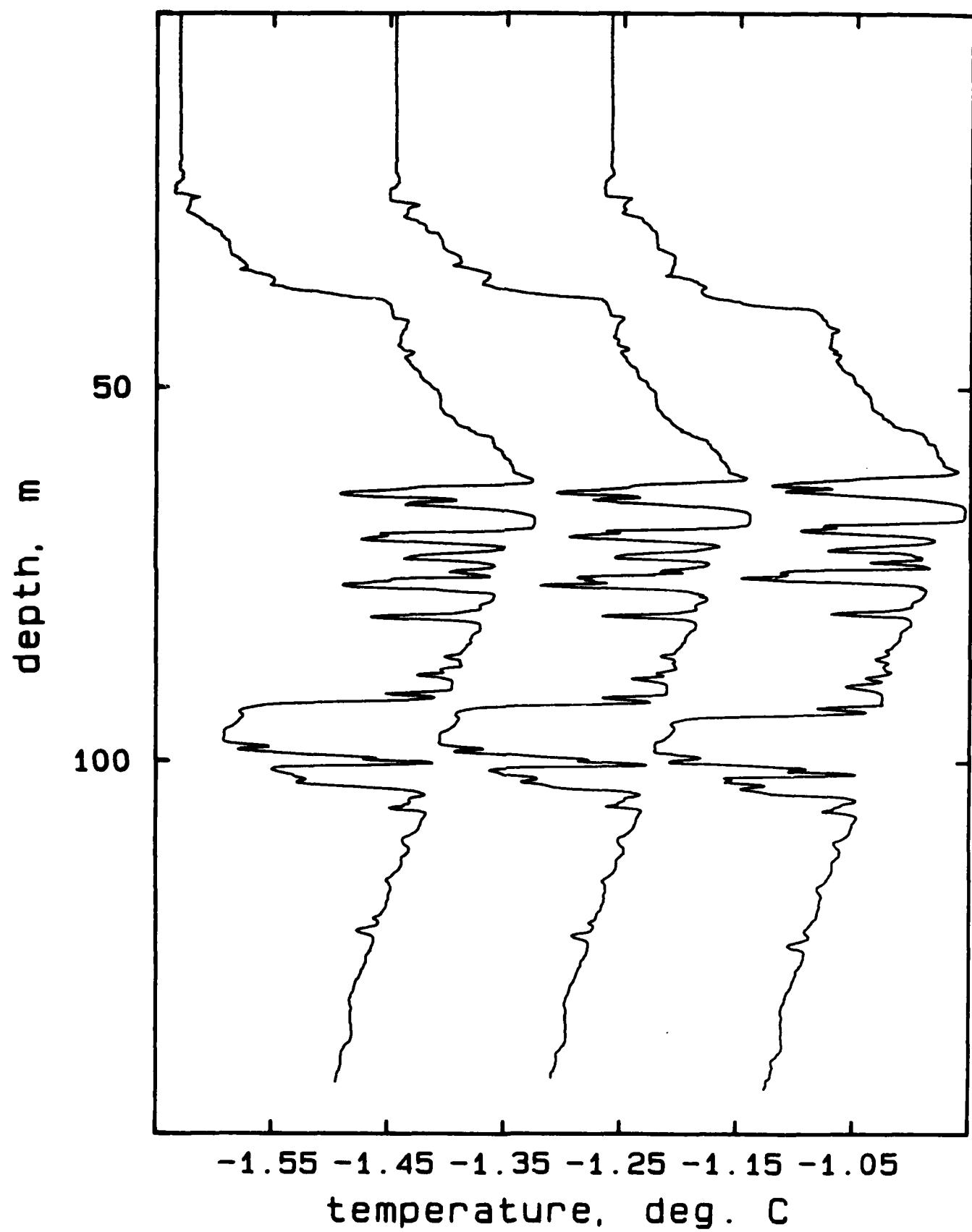
AR419E, drop 1



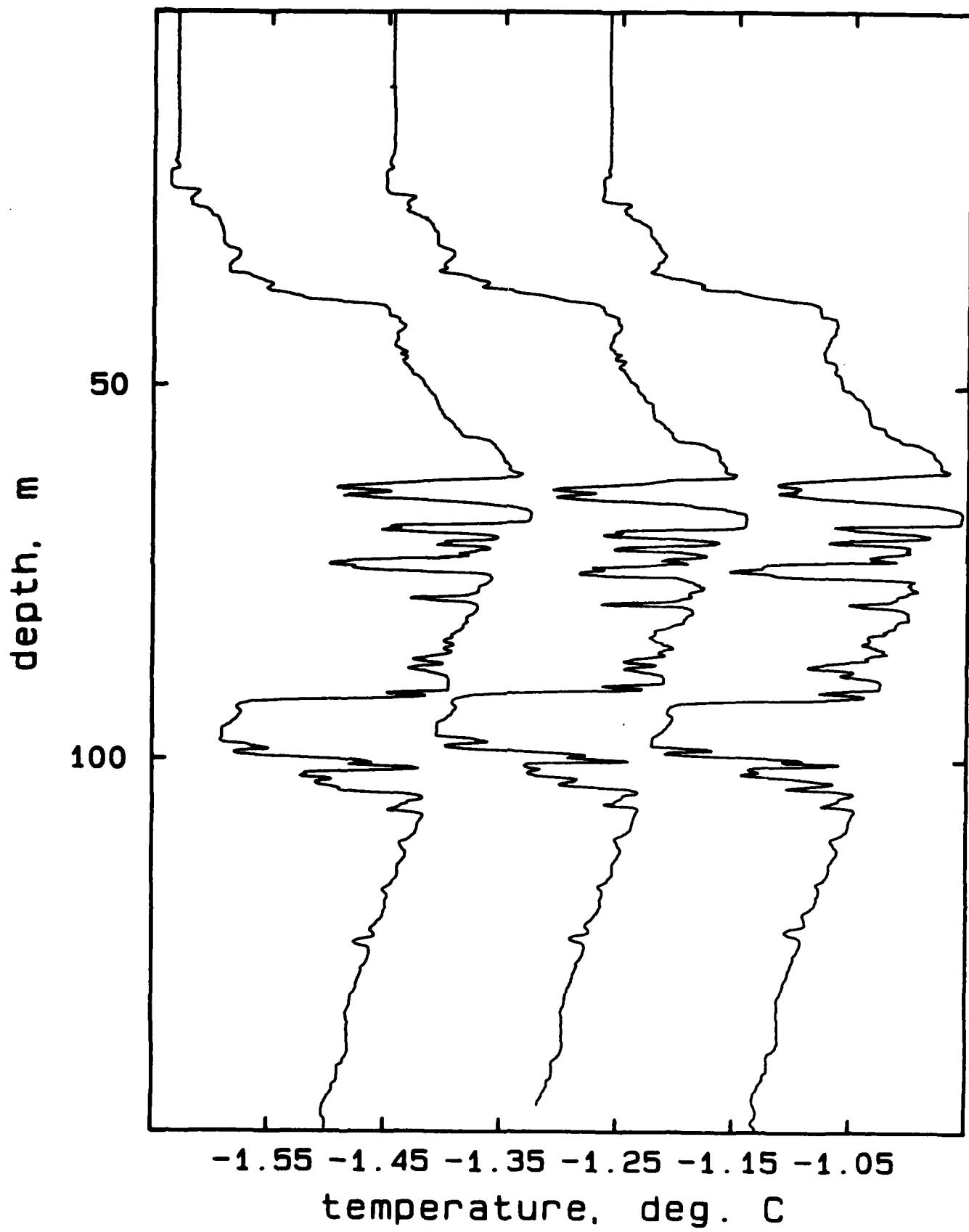
## AR419E, drops 1-3



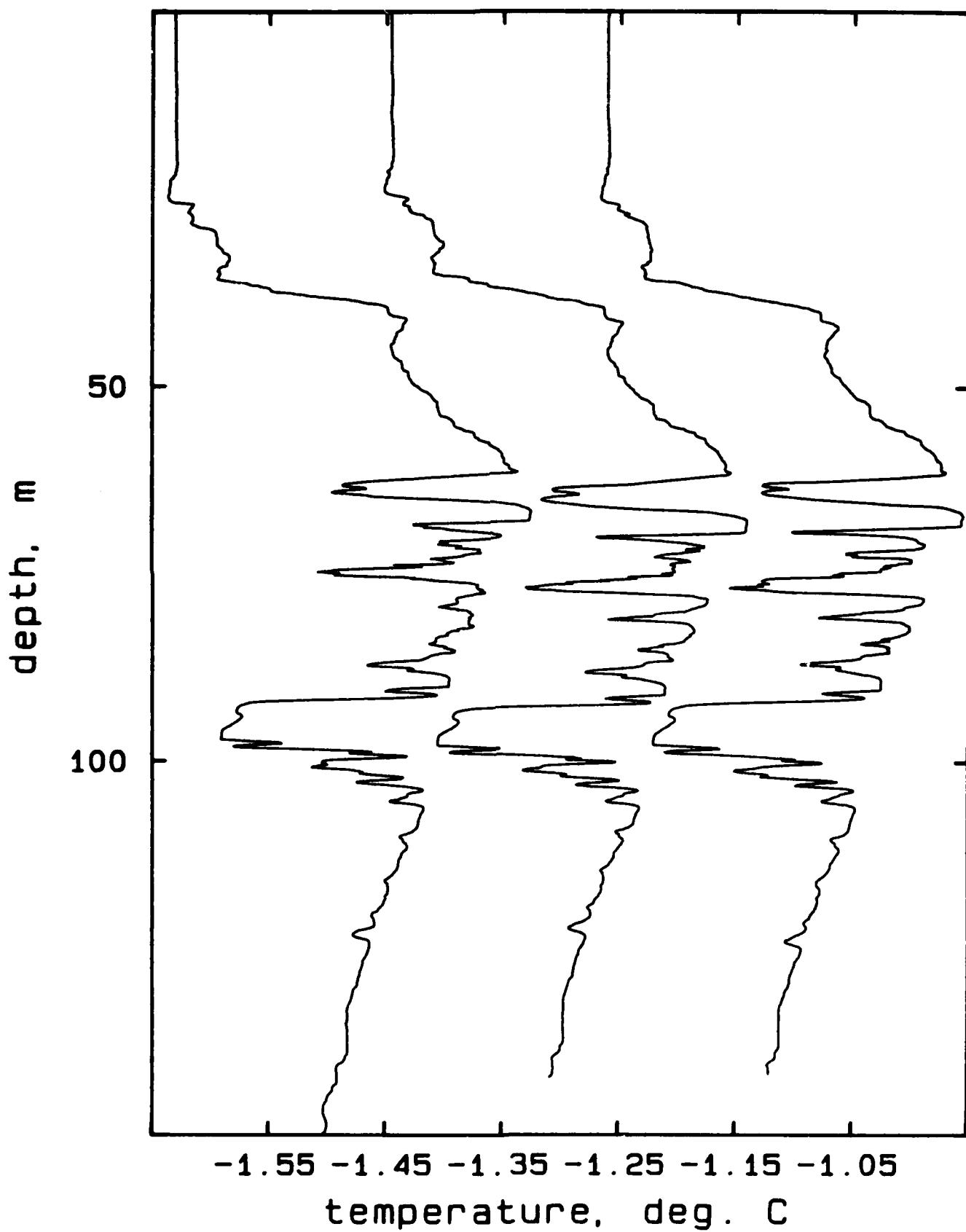
## AR419E, drops 4-6



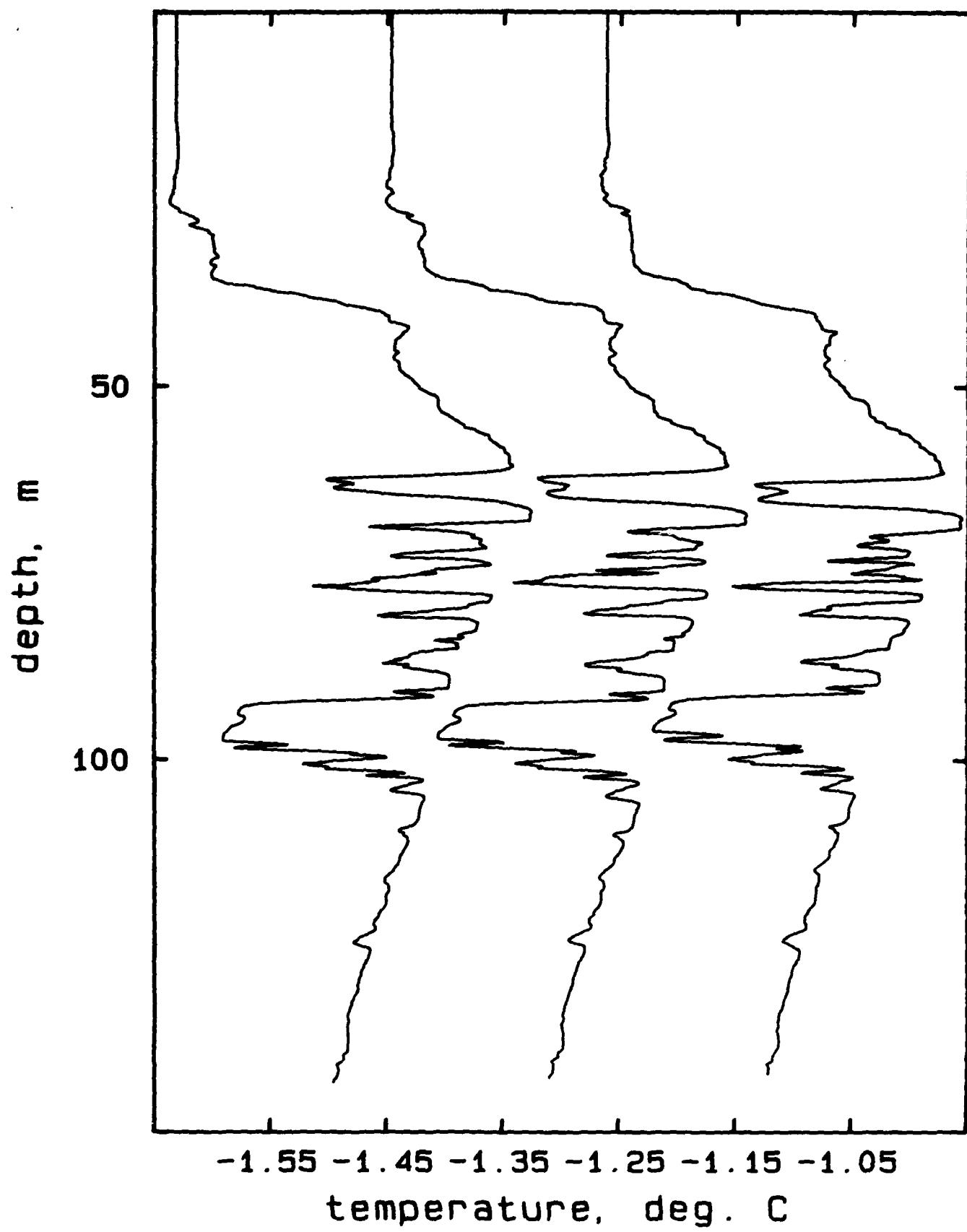
## AR419E, drops 7, 8, 10



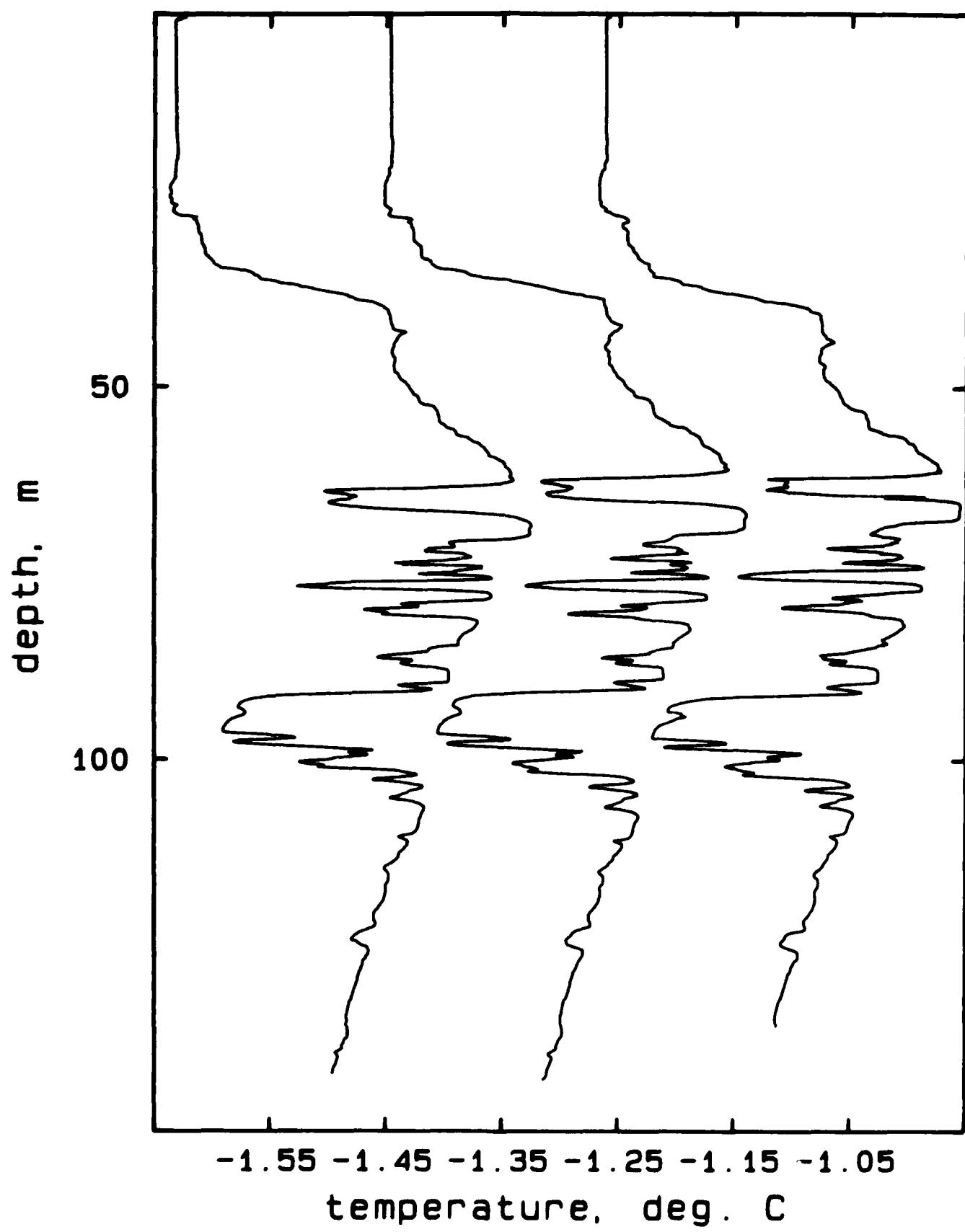
## AR419E, drops 11-13



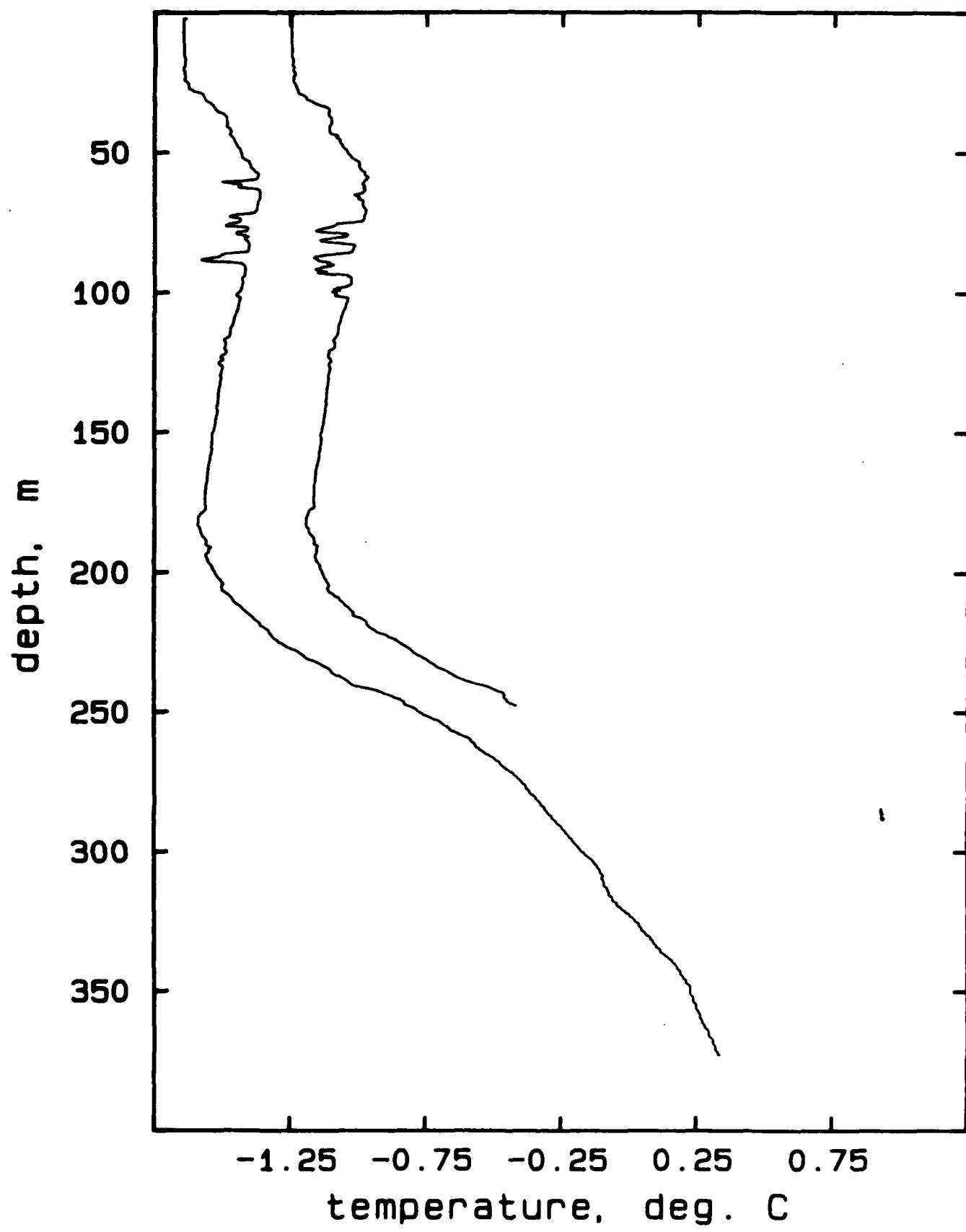
## AR419E, drops 14-16



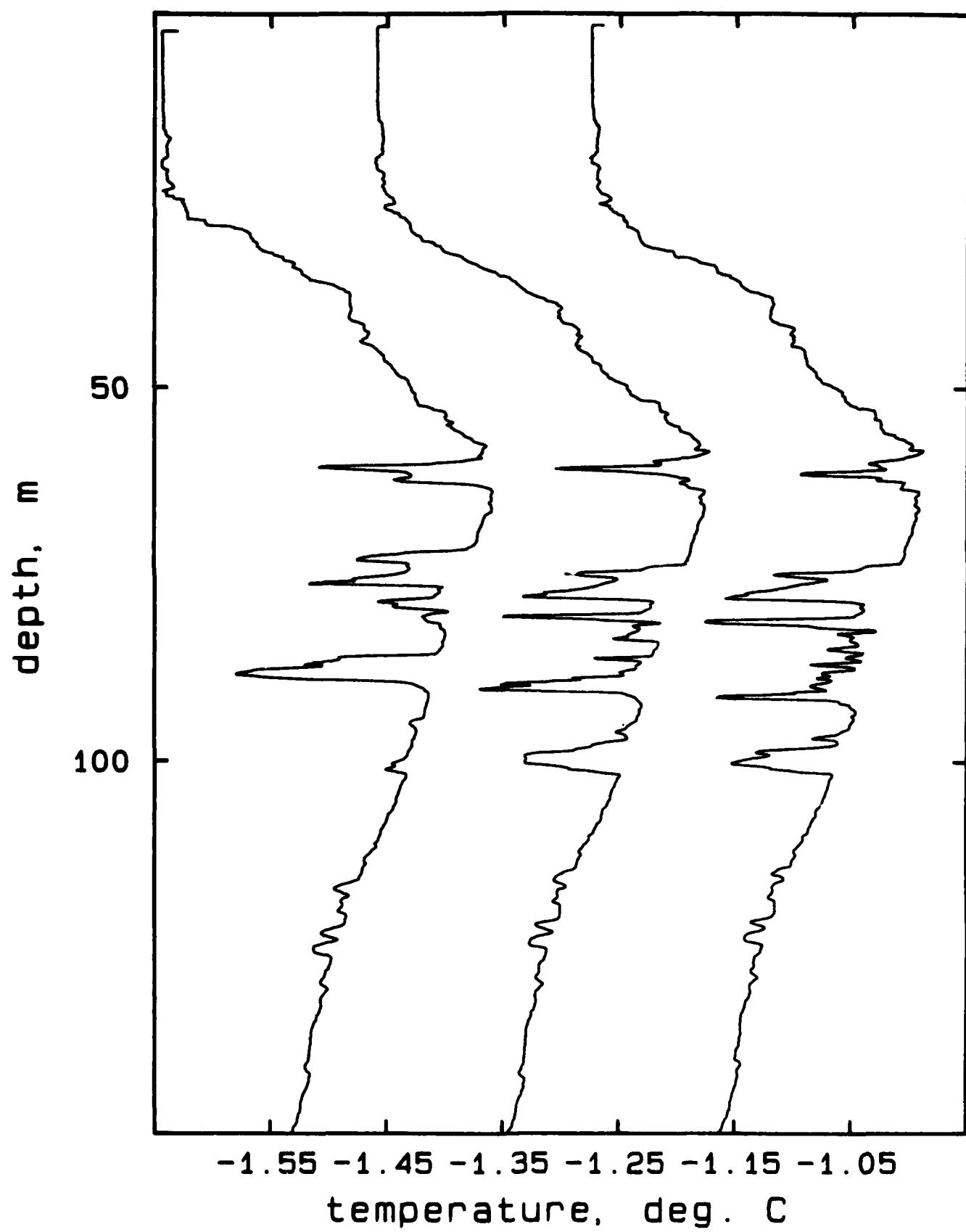
## AR419E, drops 17-19



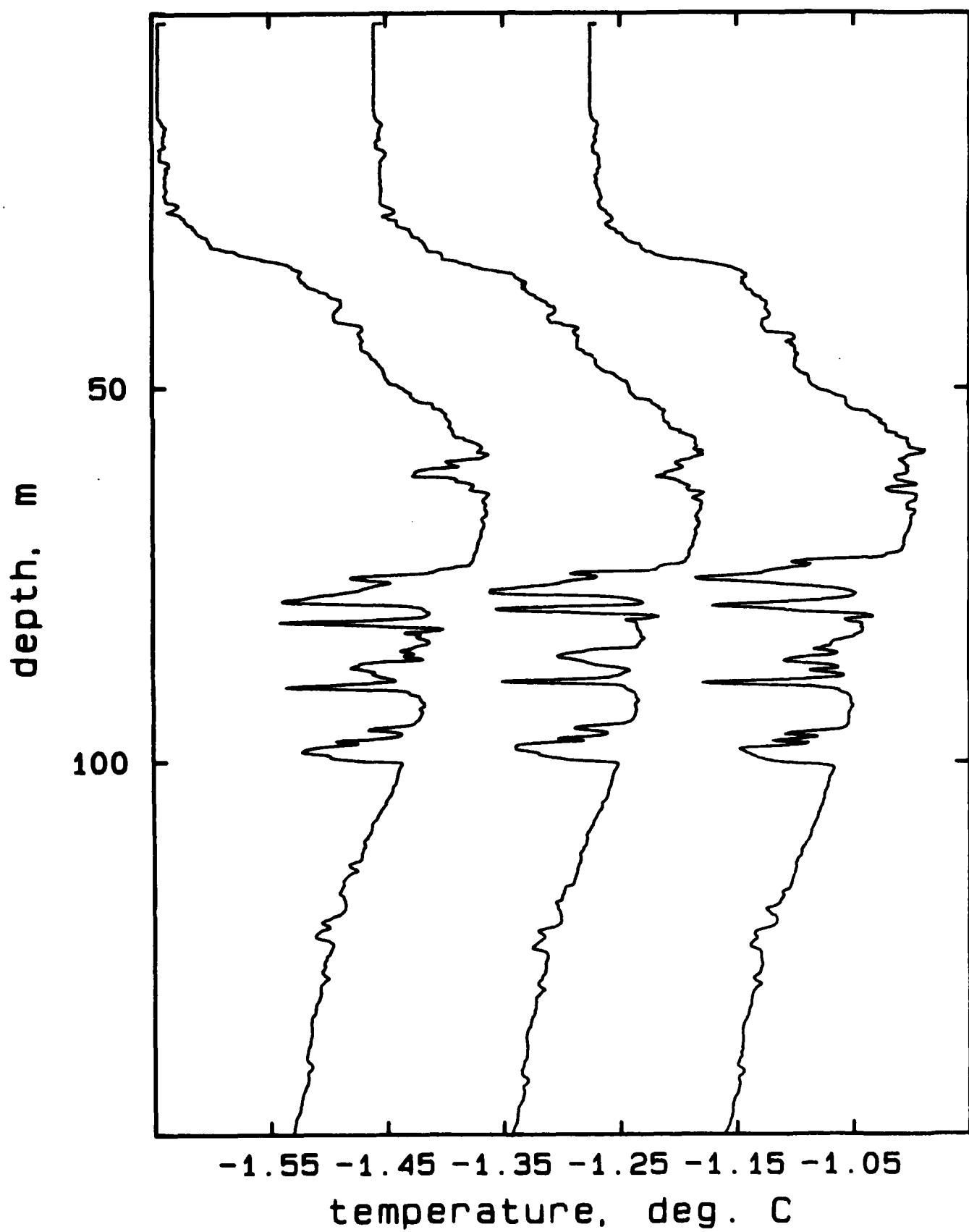
## AR420A, drops 1, 9



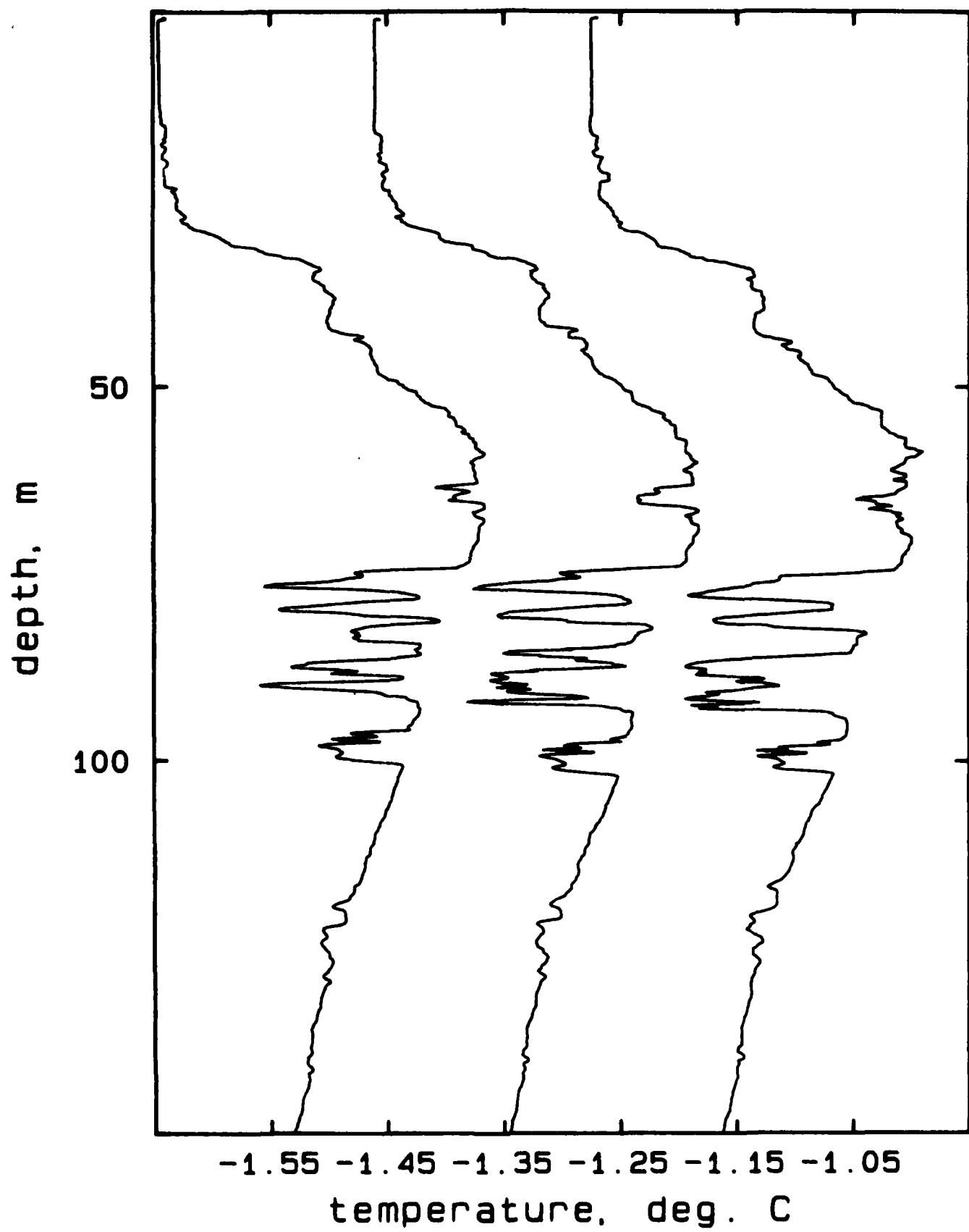
## AR420A, drops 1-3



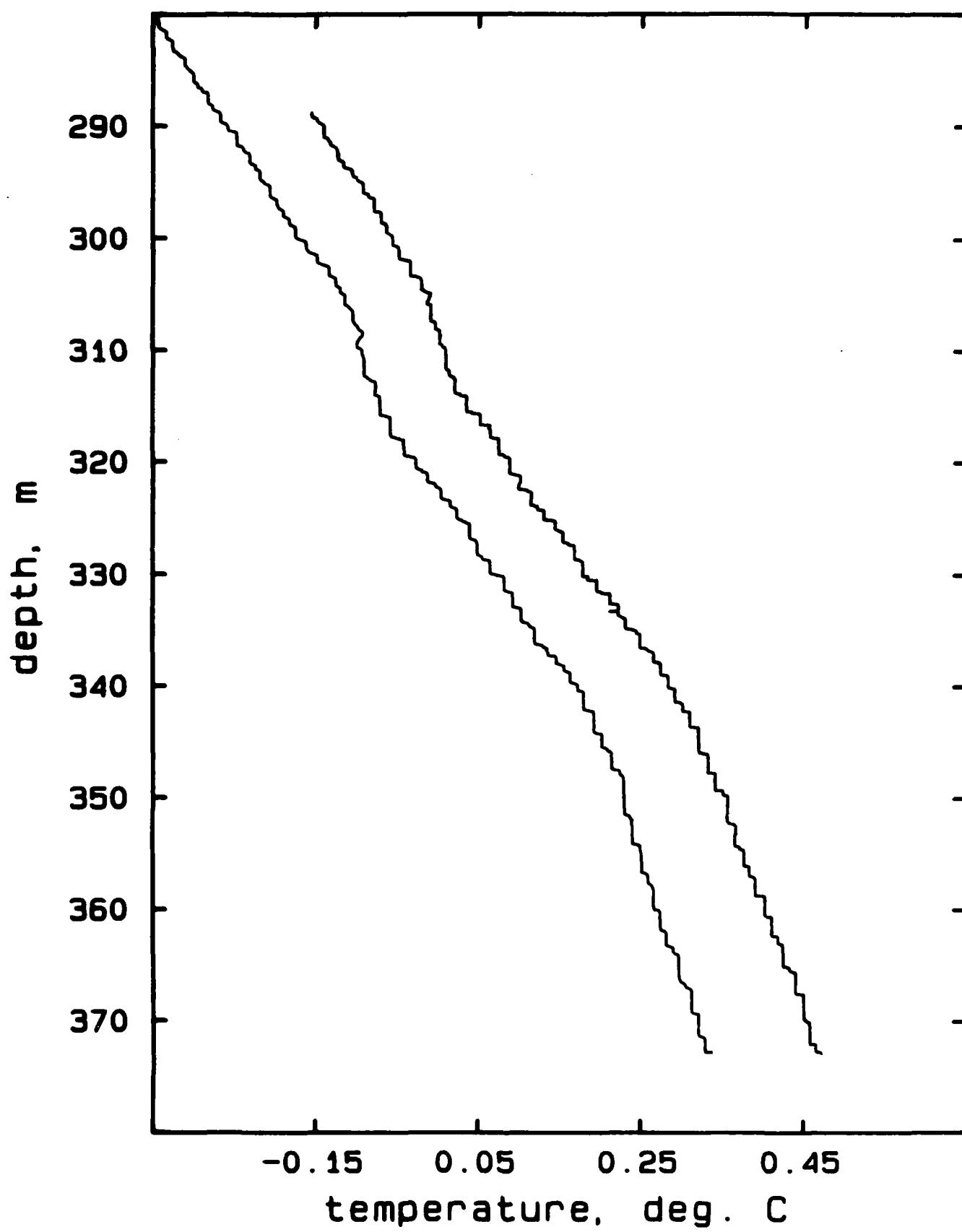
## AR420A, drops 4-6



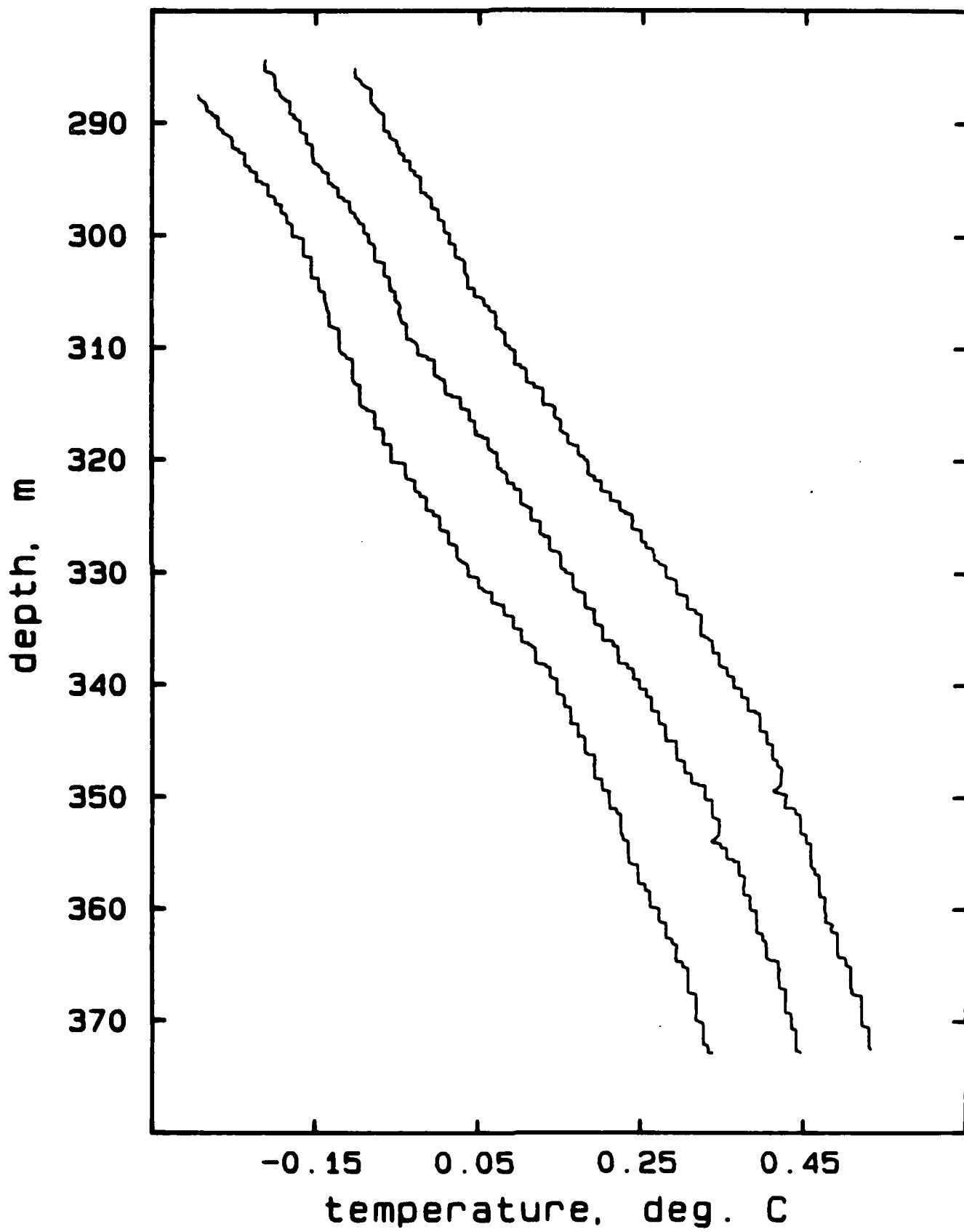
## AR420A, drops 7-9



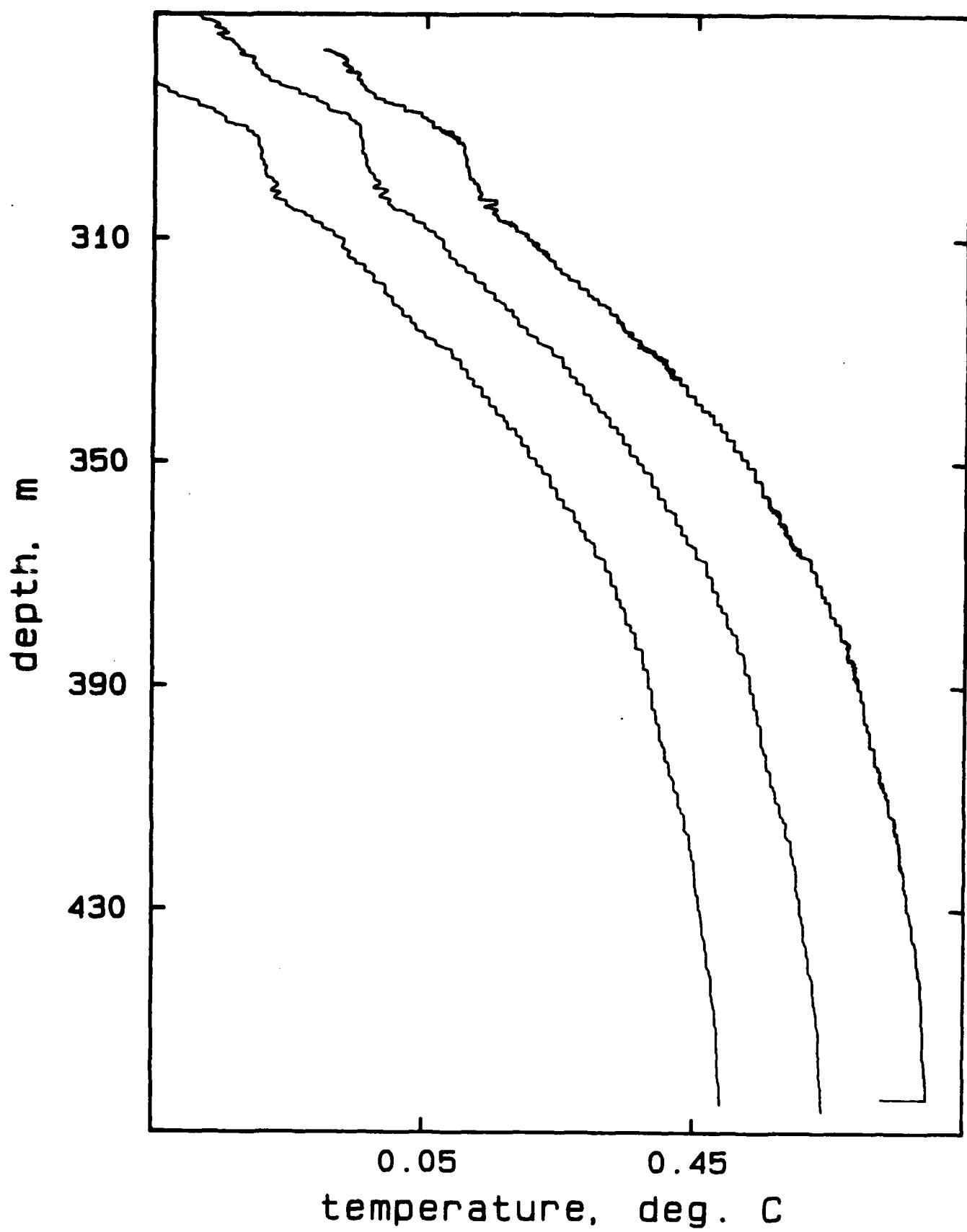
## AR420A, drops 1, 10



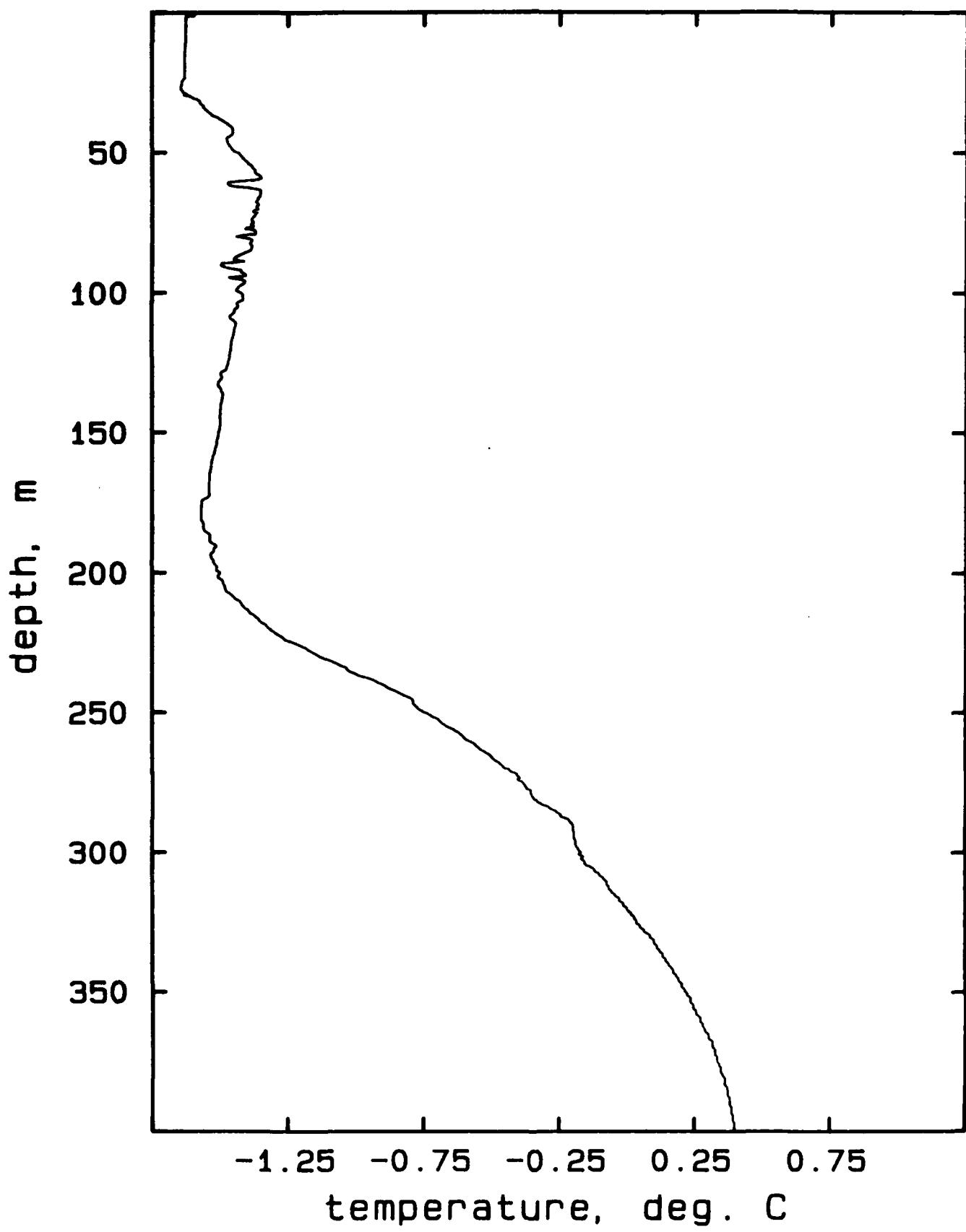
AR420B, drops 1, 2 AR420C, drop 1



## AR421A, drops 2-4

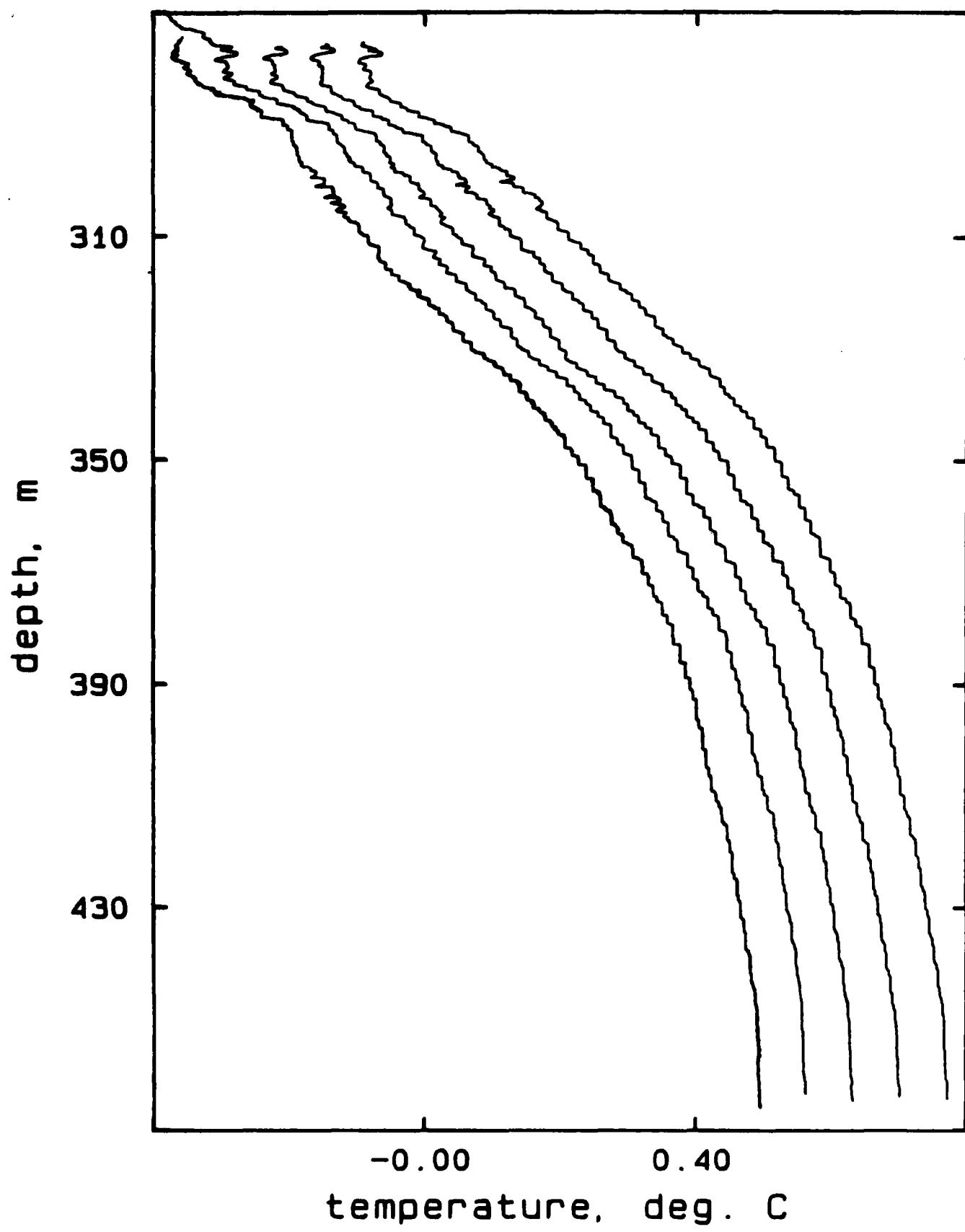


## AR421A, drop 3

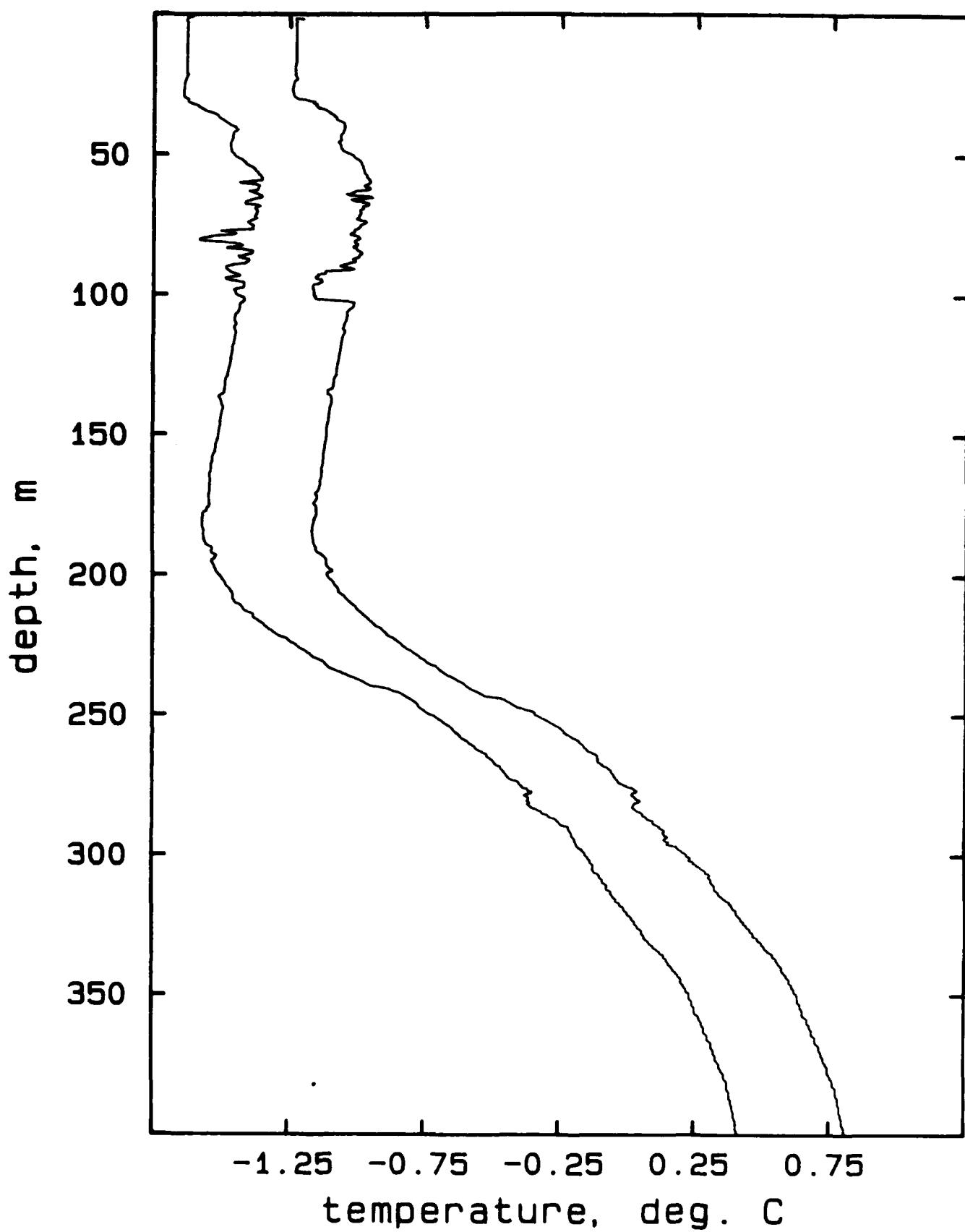


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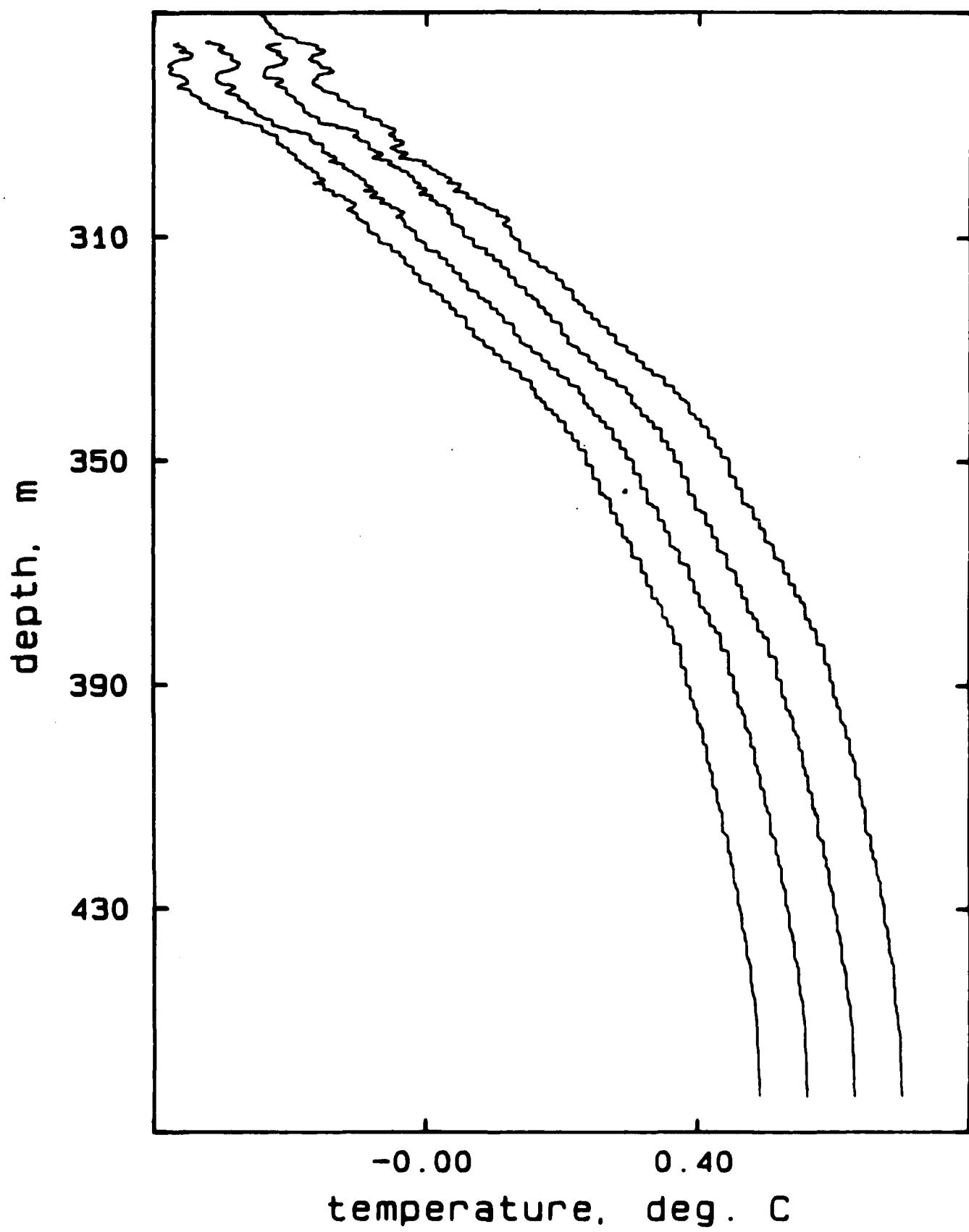
AR421B, drops 1-5



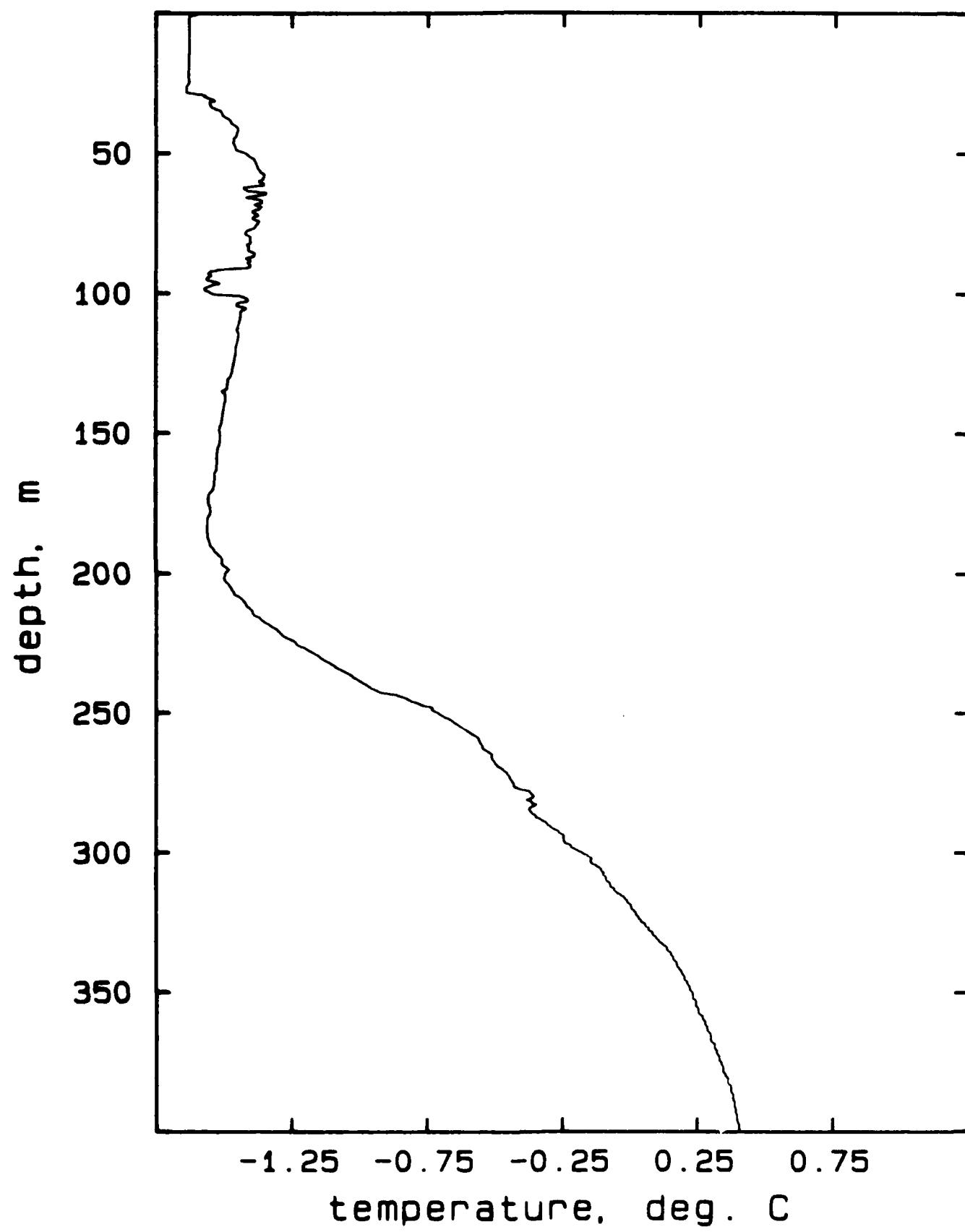
## AR421B, drops 2, 9



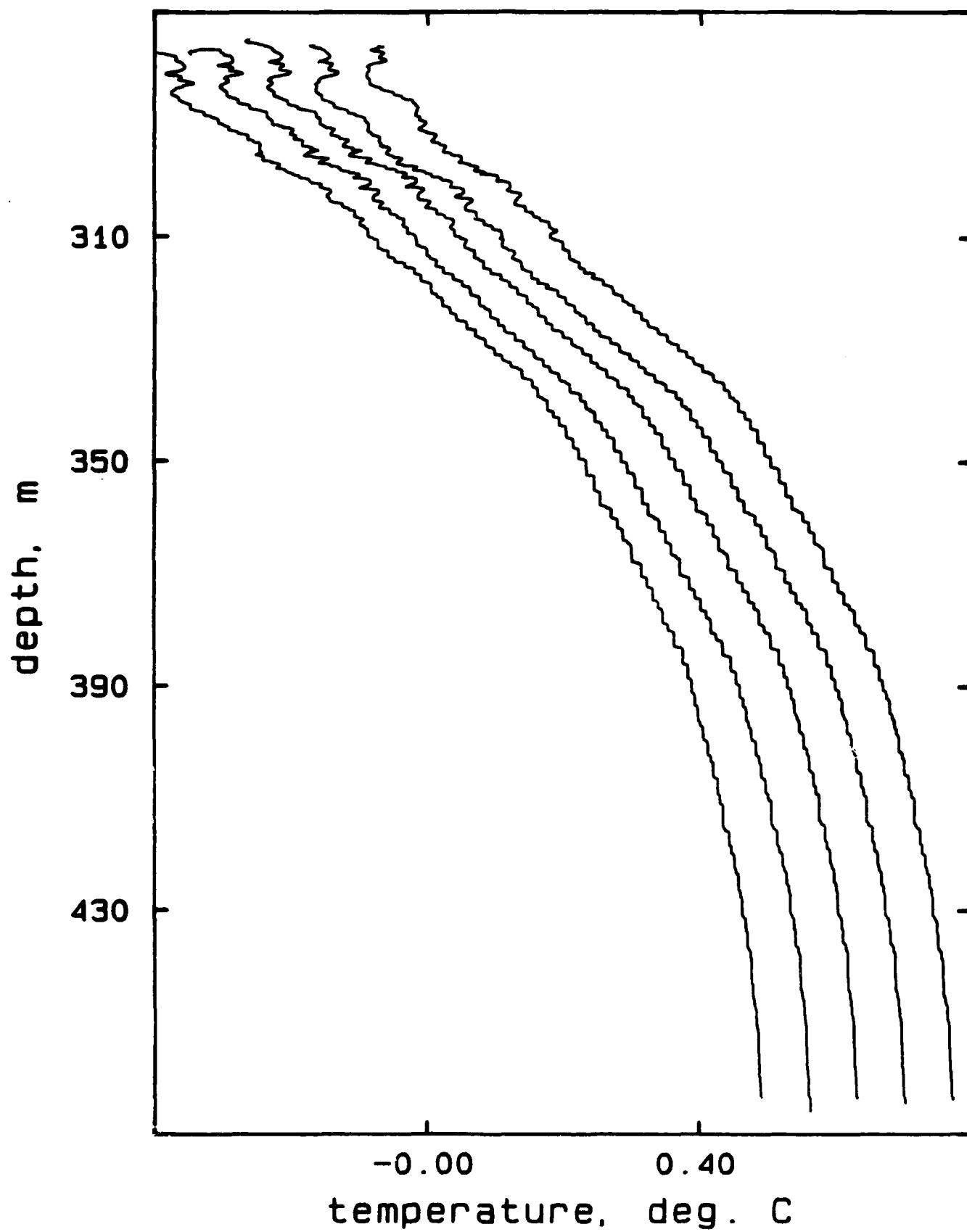
## AR421B, drops 6-9



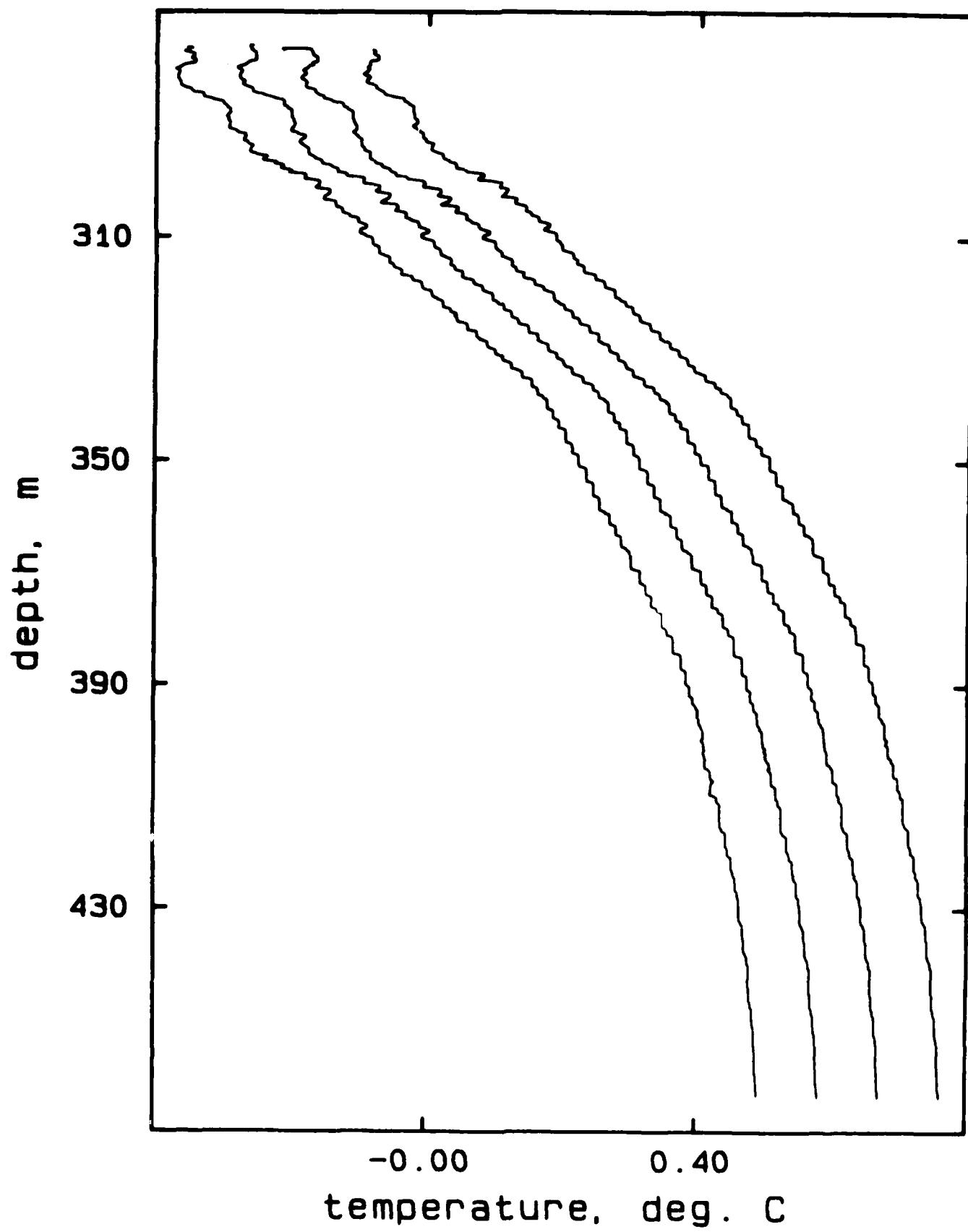
## AR421C, drop 1



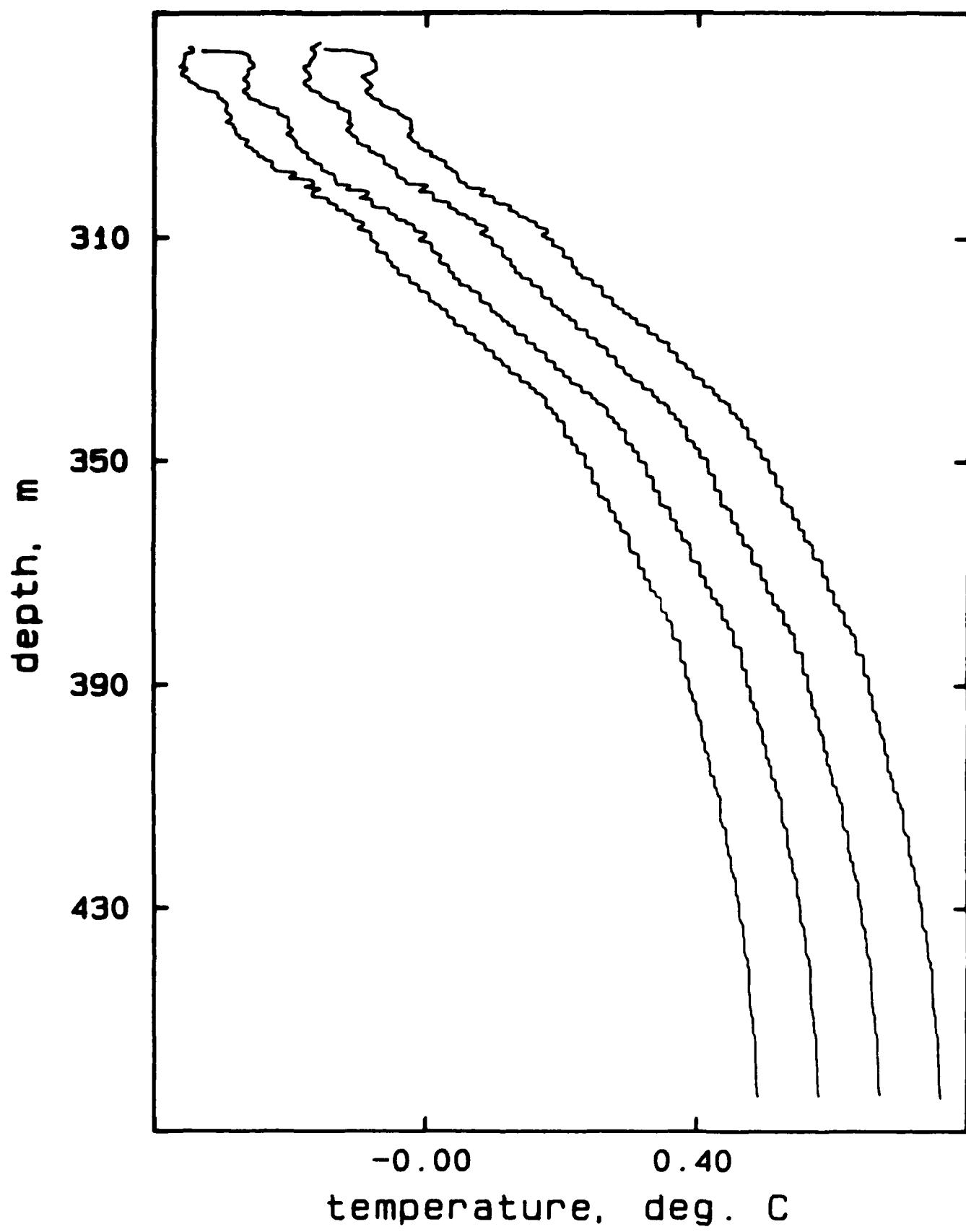
## AR421C, drops 1-5



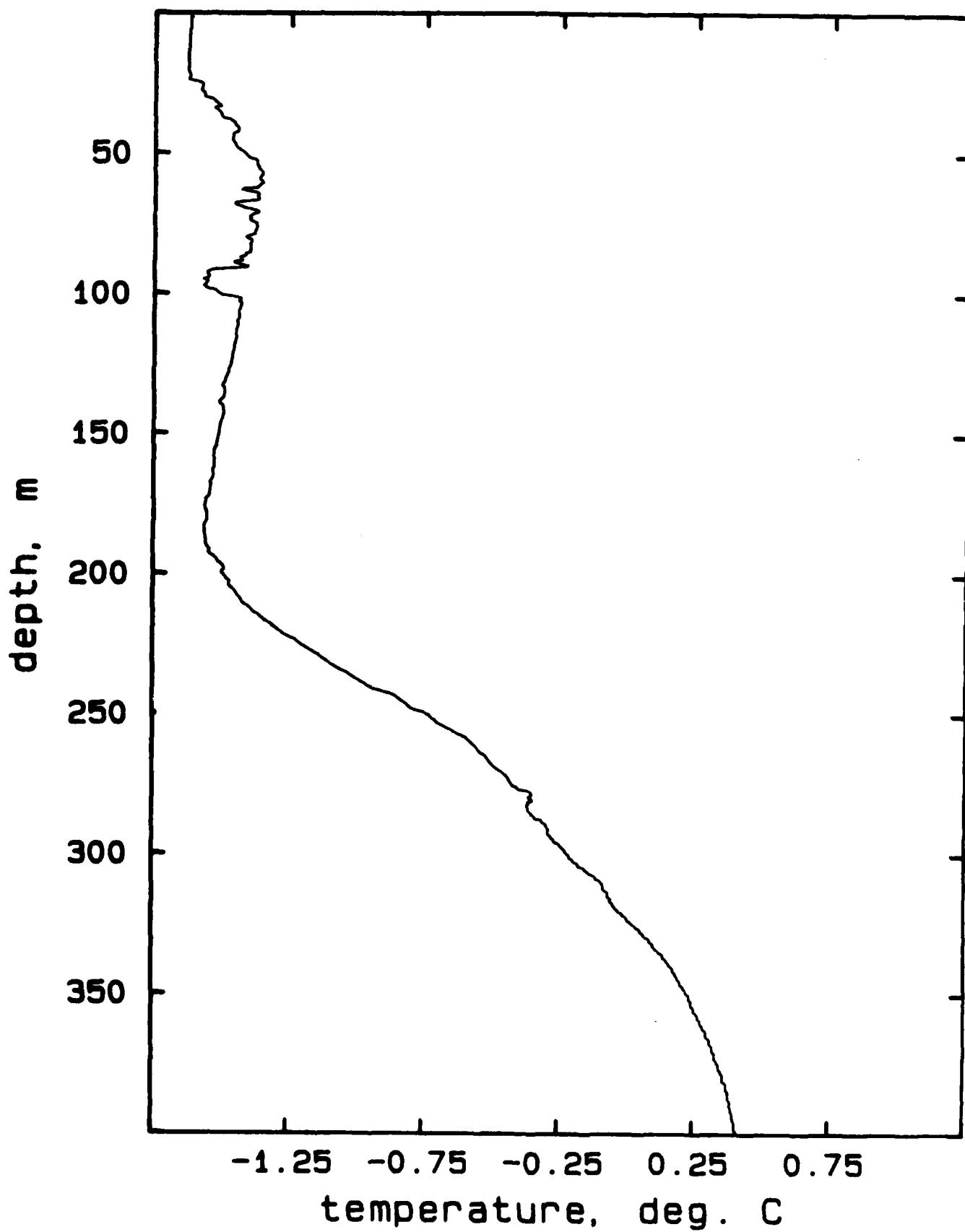
AR421C. drops 6-9



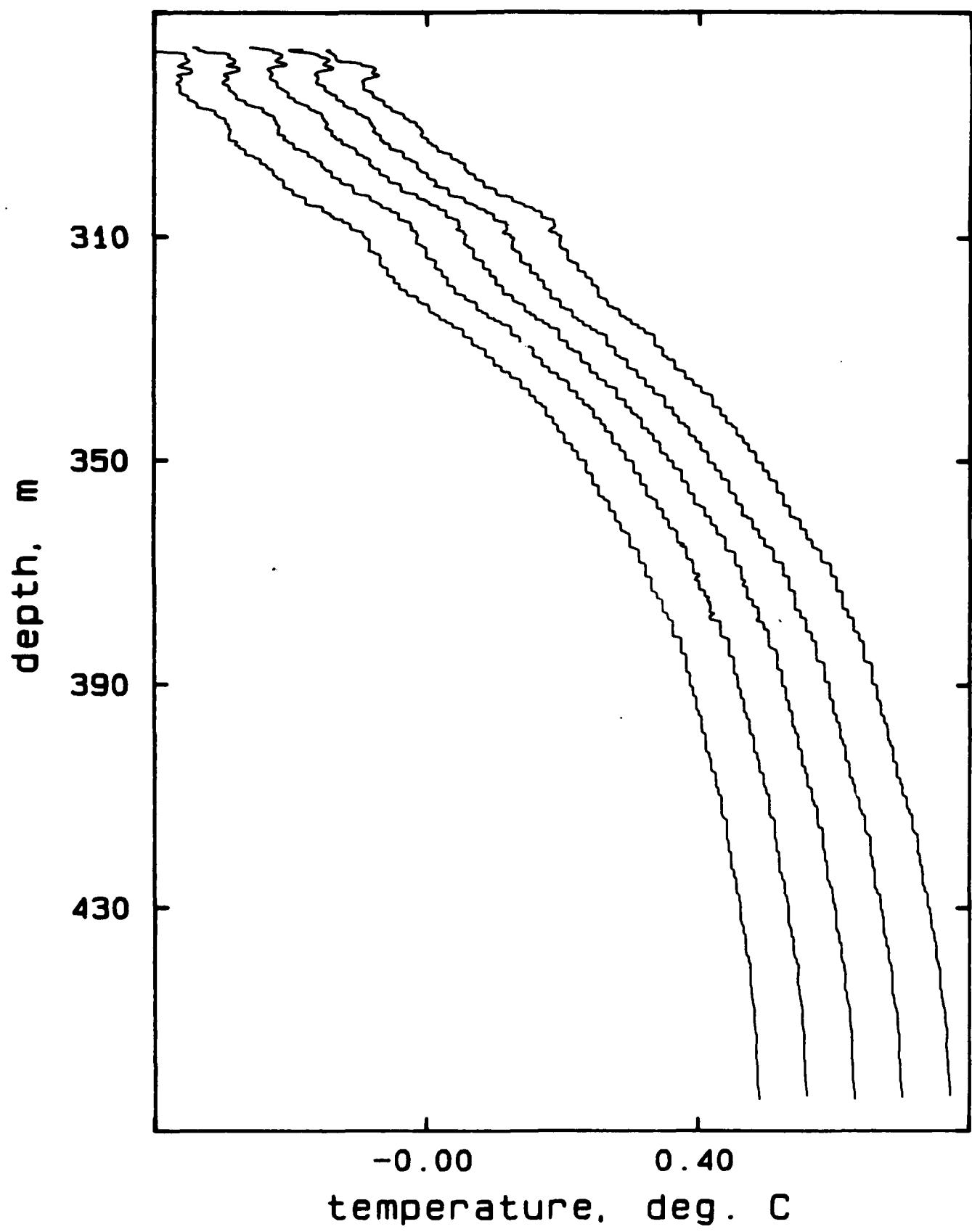
AR421C, drop 10-13



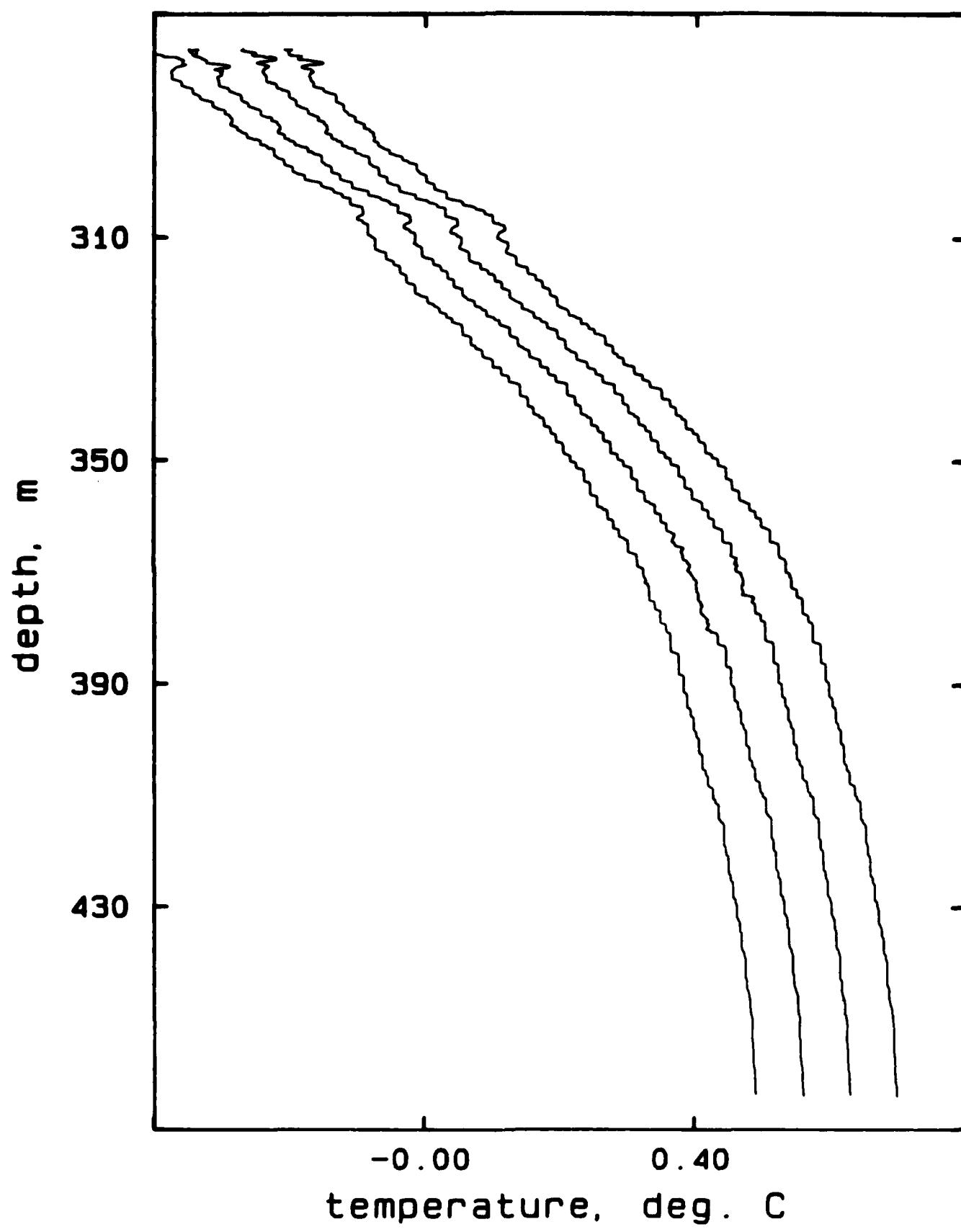
## AR421D, drop 1



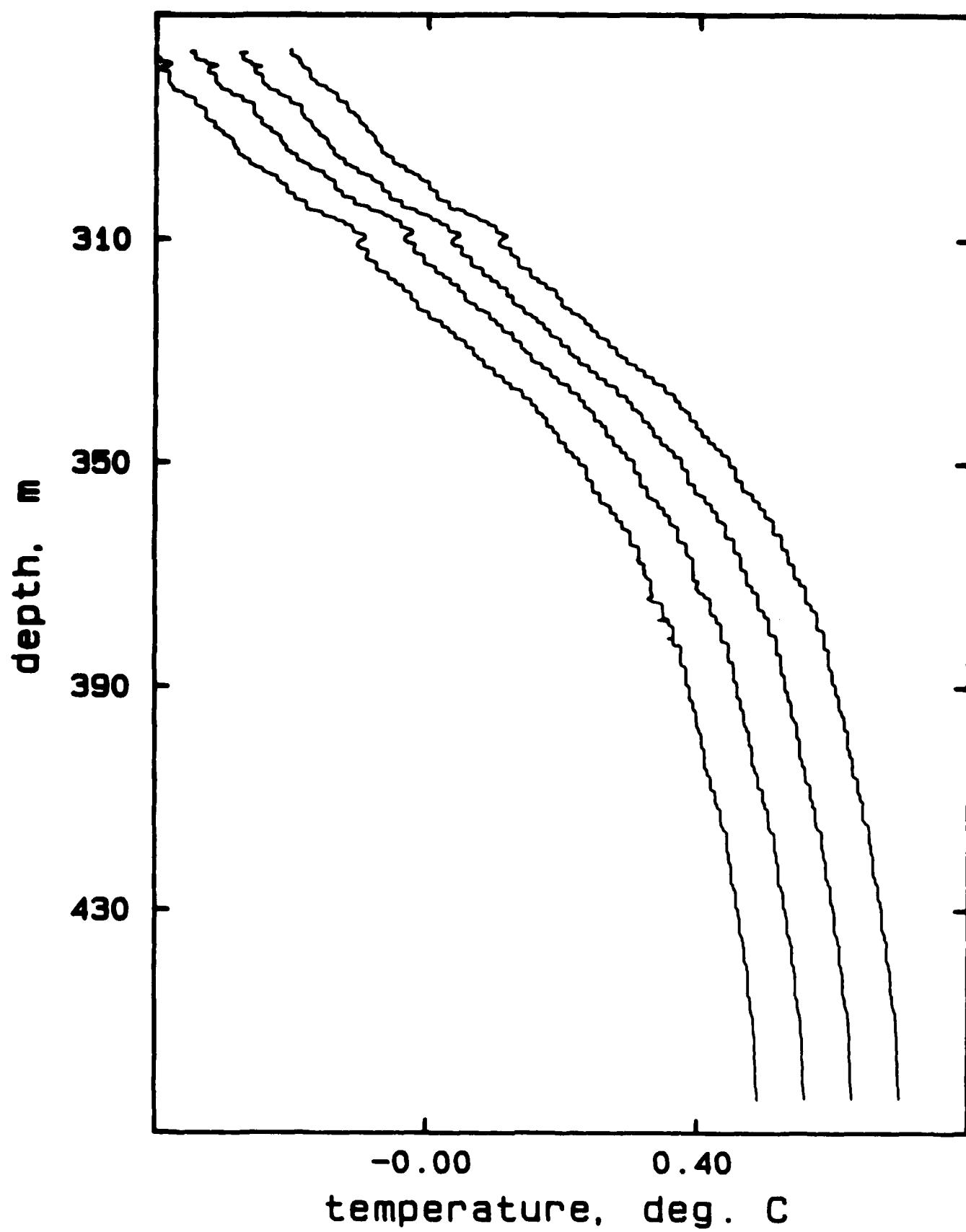
## AR421D, drops 1-5



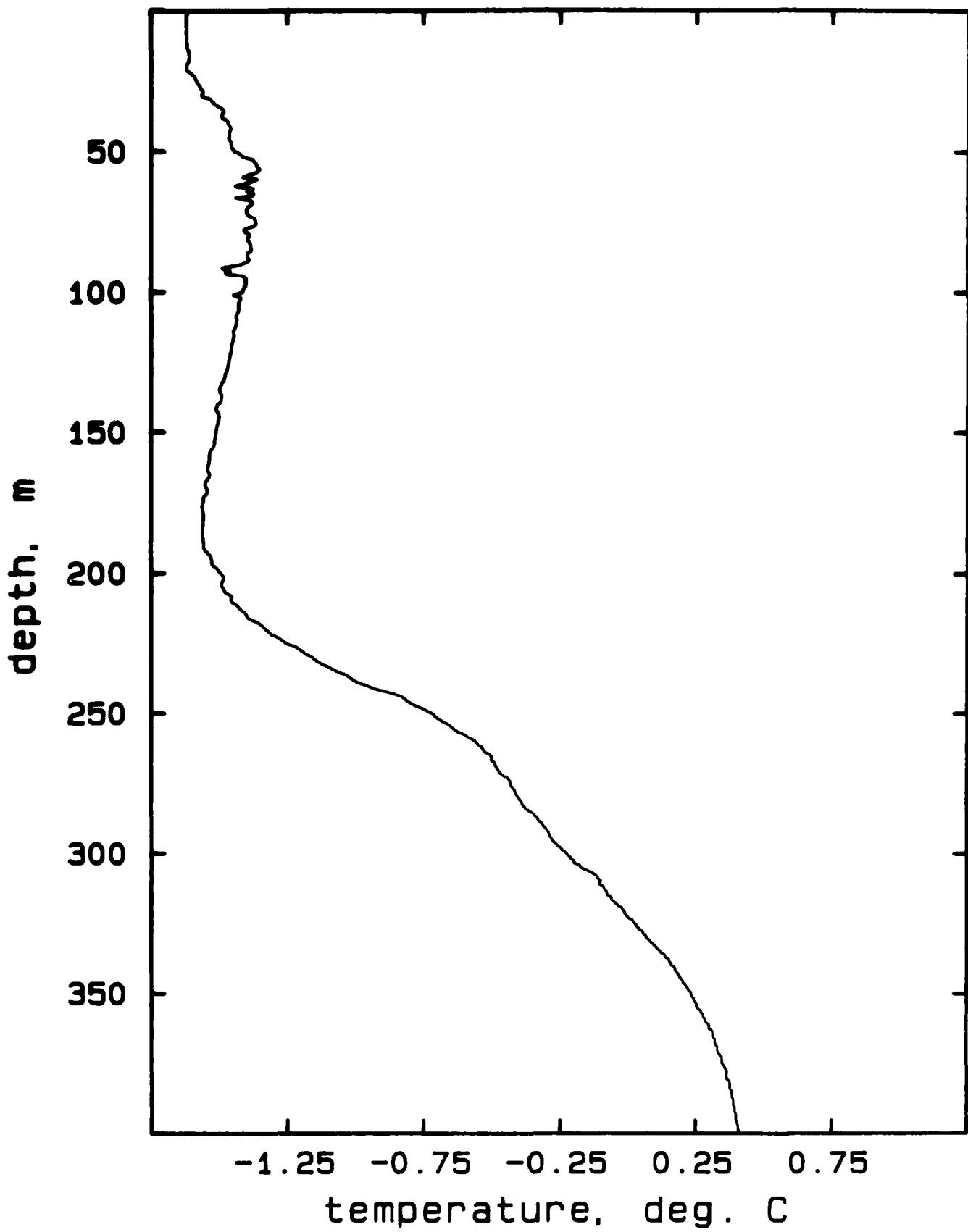
## AR421D, drops 6-9



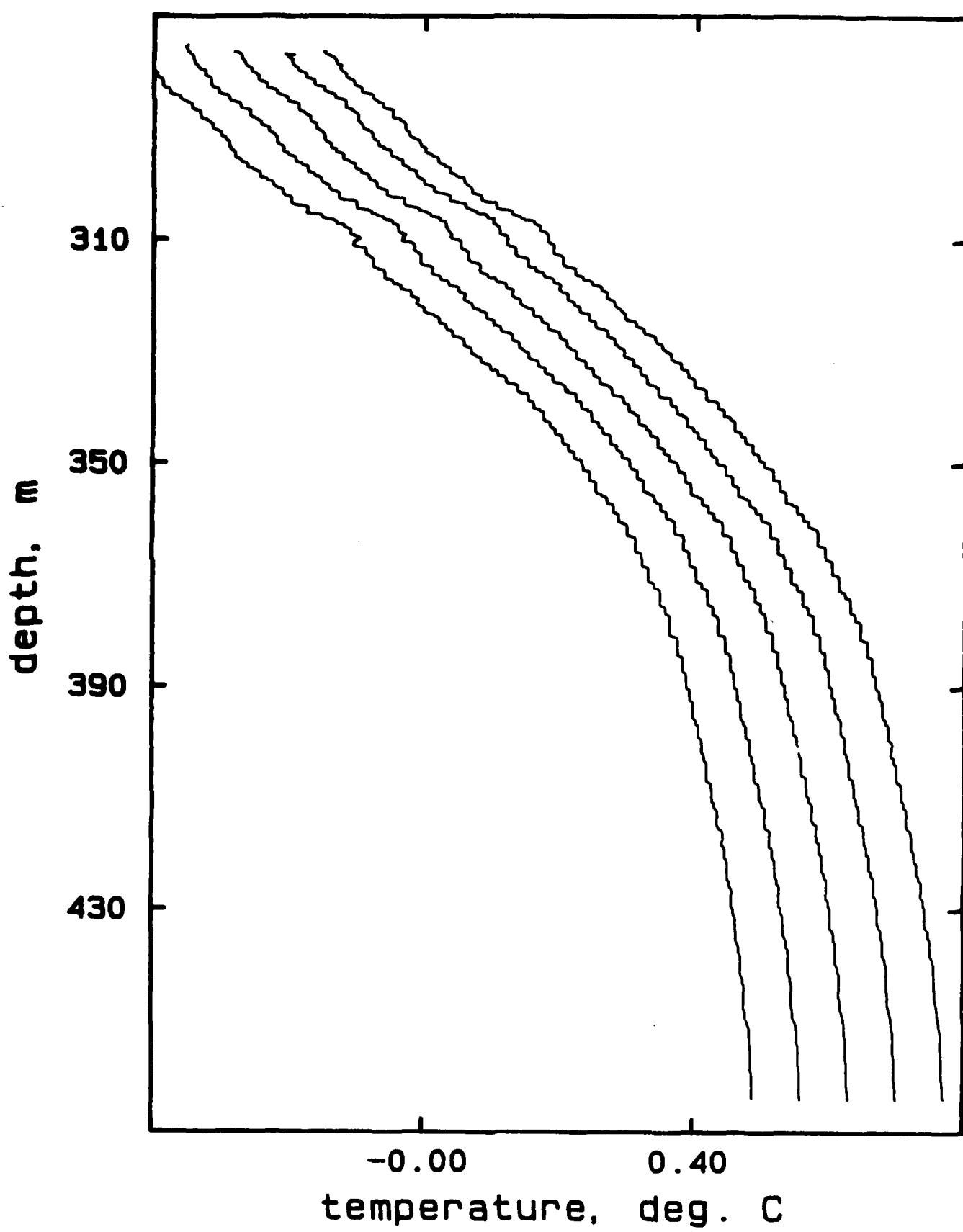
## AR4210, drops 10-13



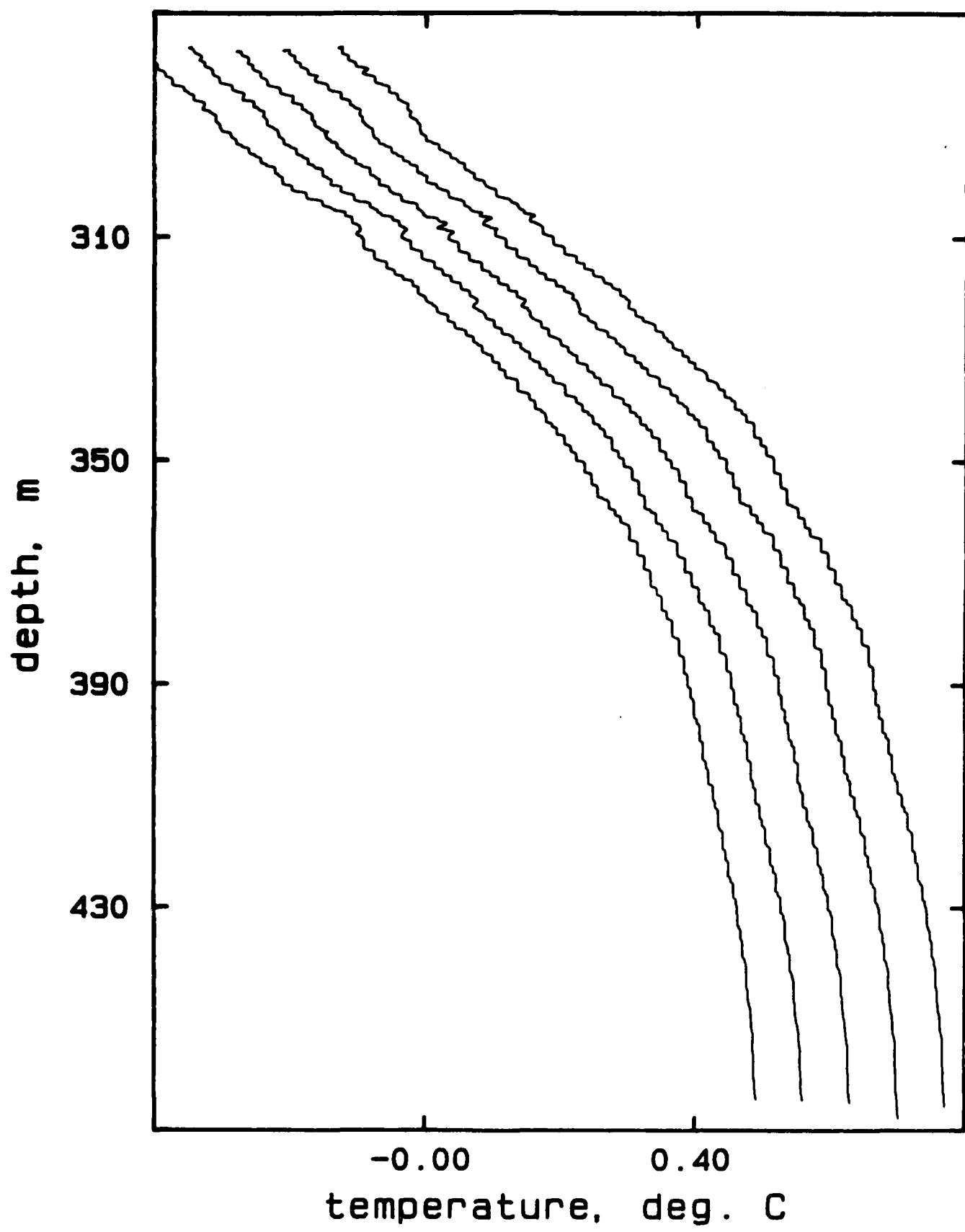
## AR422A, drop 1



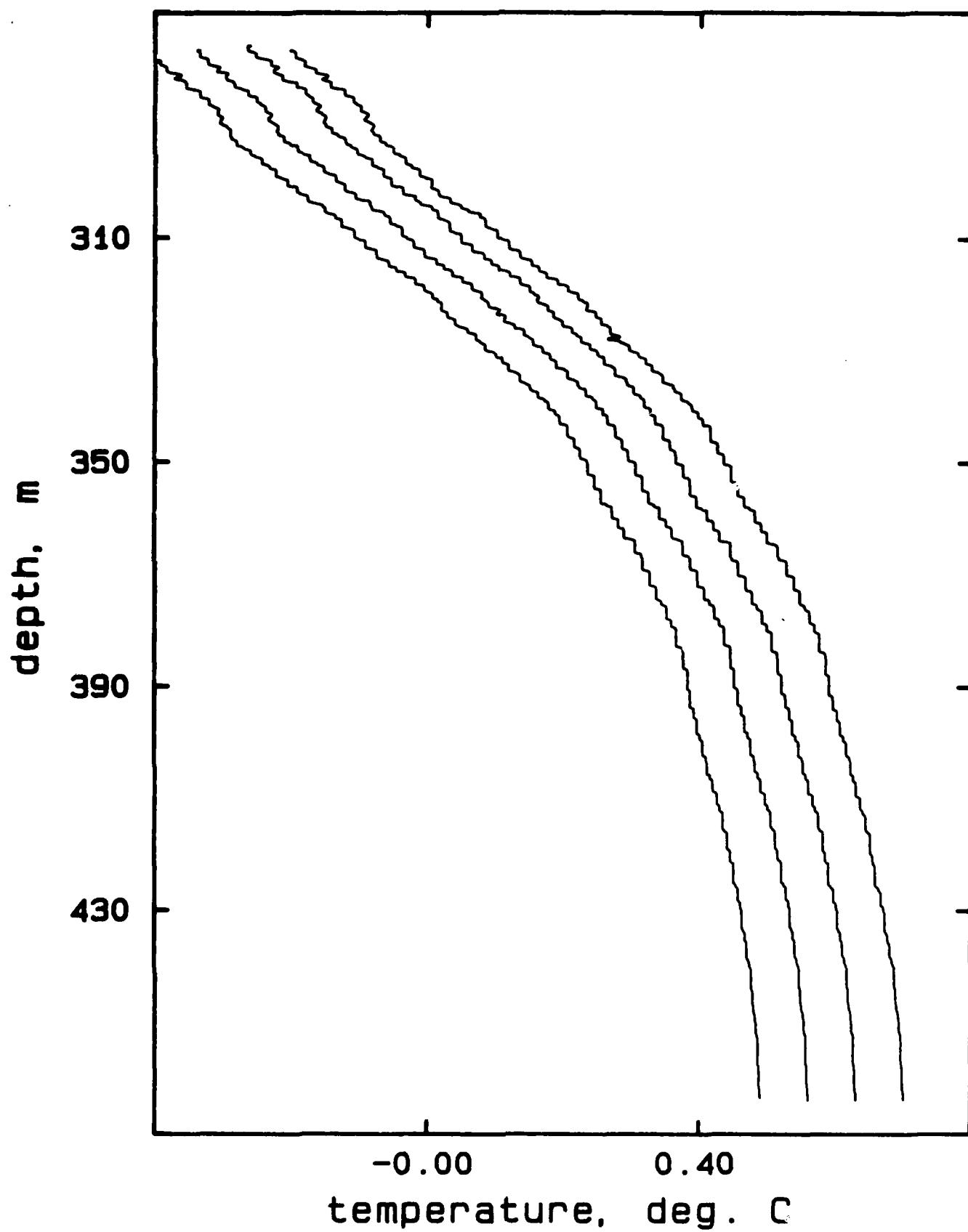
## AR422A, drops 1-5



## AR422A, drops 6-10

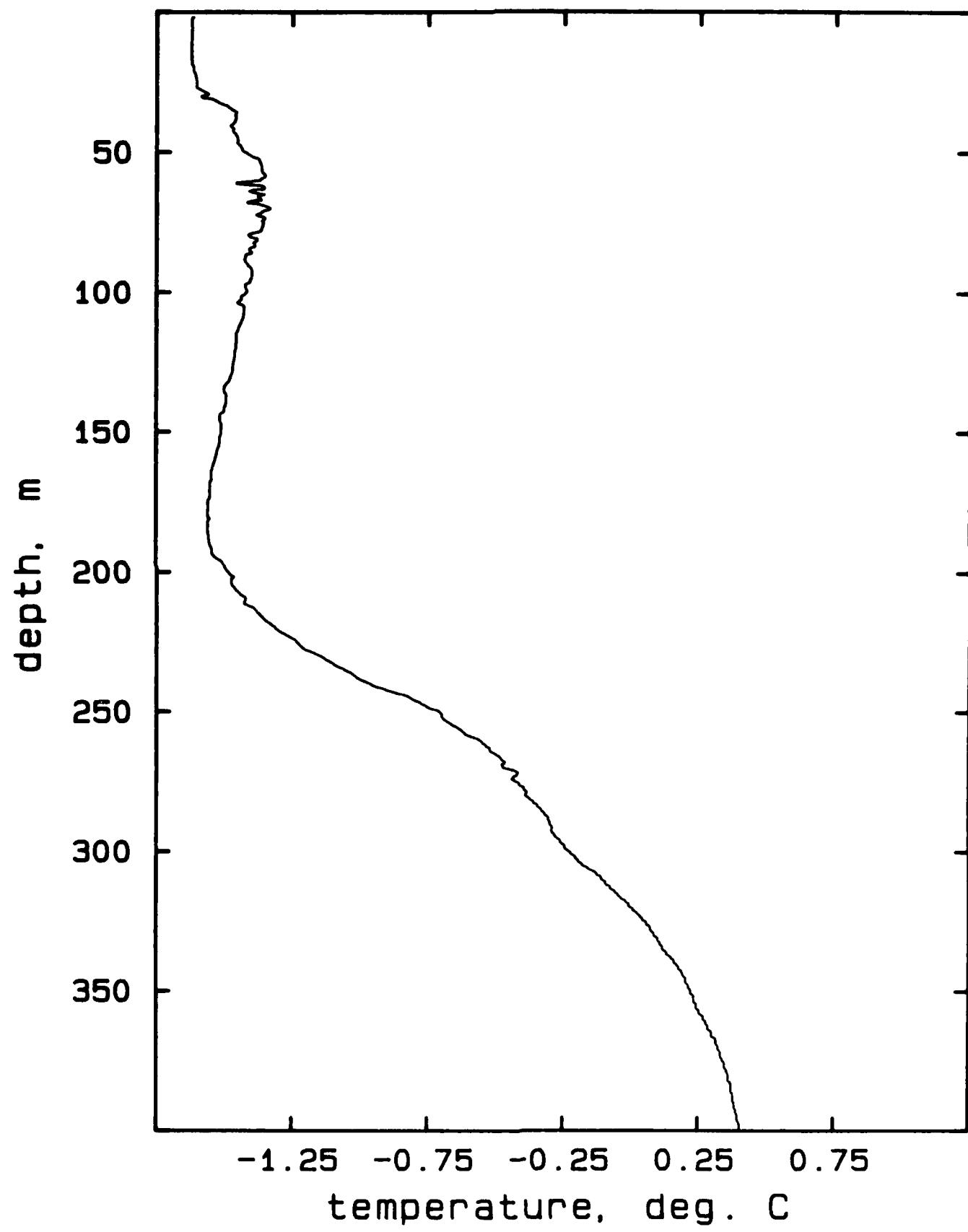


## AR422A, drops 11-15

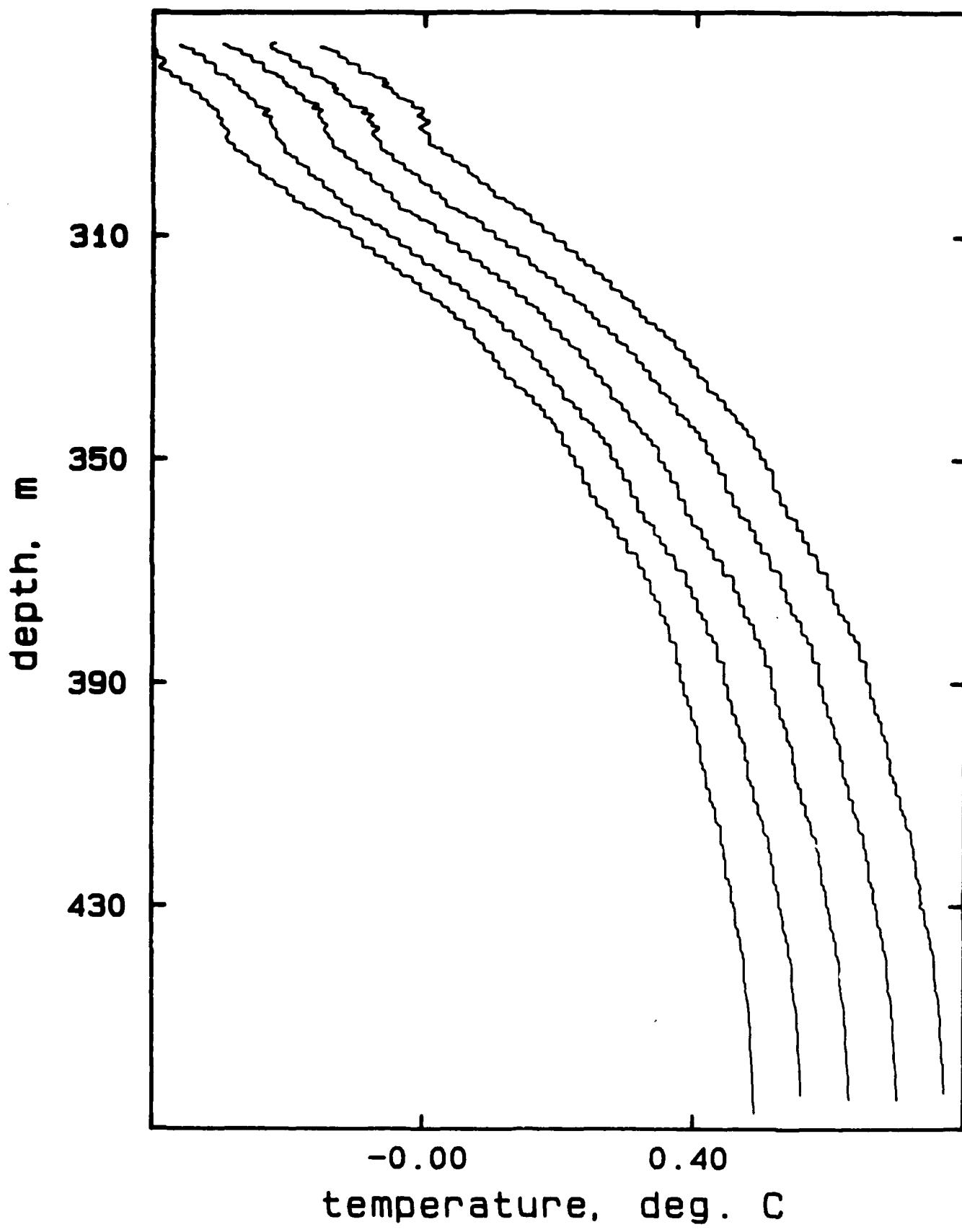


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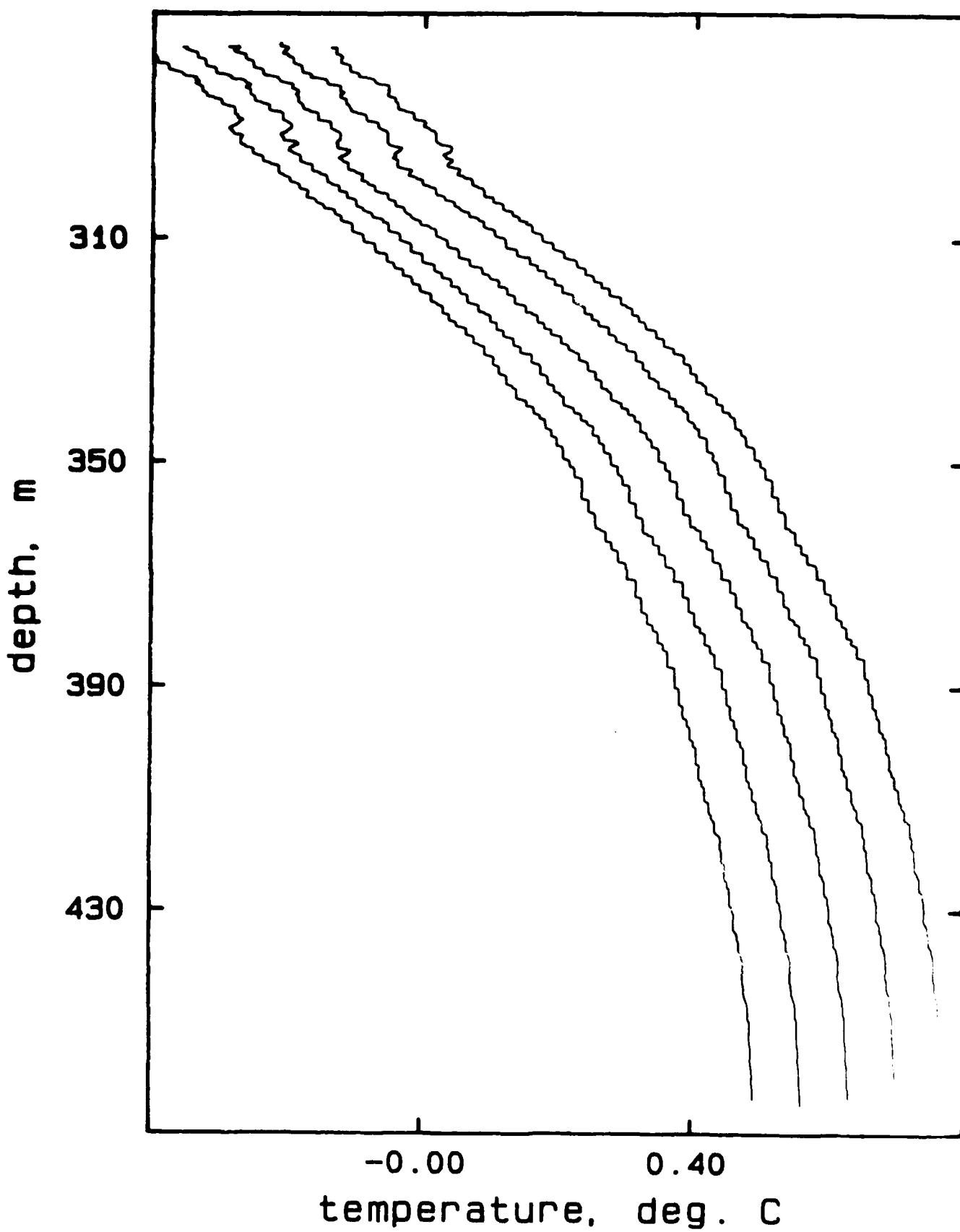
AR422B, drop 1



## AR422B, drops 1-5



## AR422B, drops 6-10



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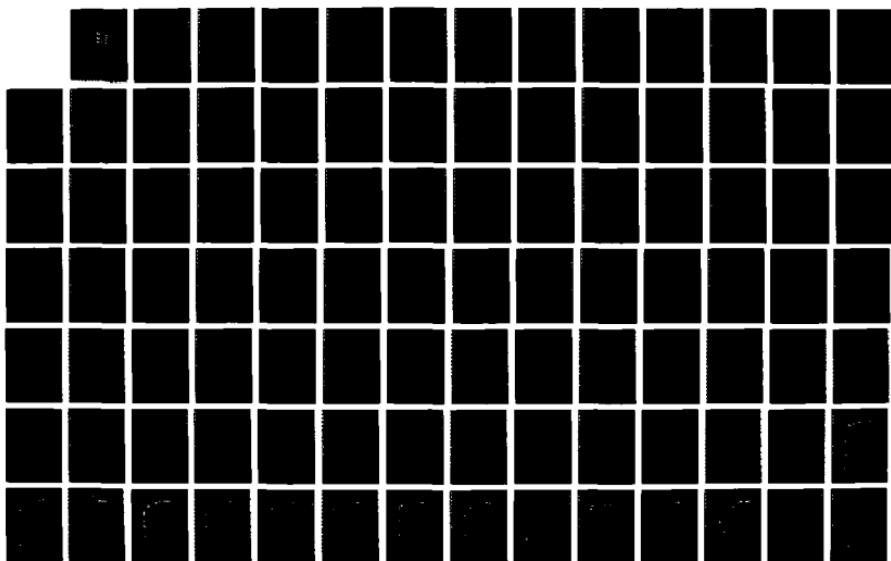
MICROSTRUCTURE CASTS DURING AIWEX (ARCTIC INTERNAL WAVE 4/5  
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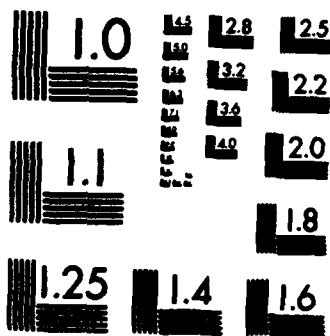
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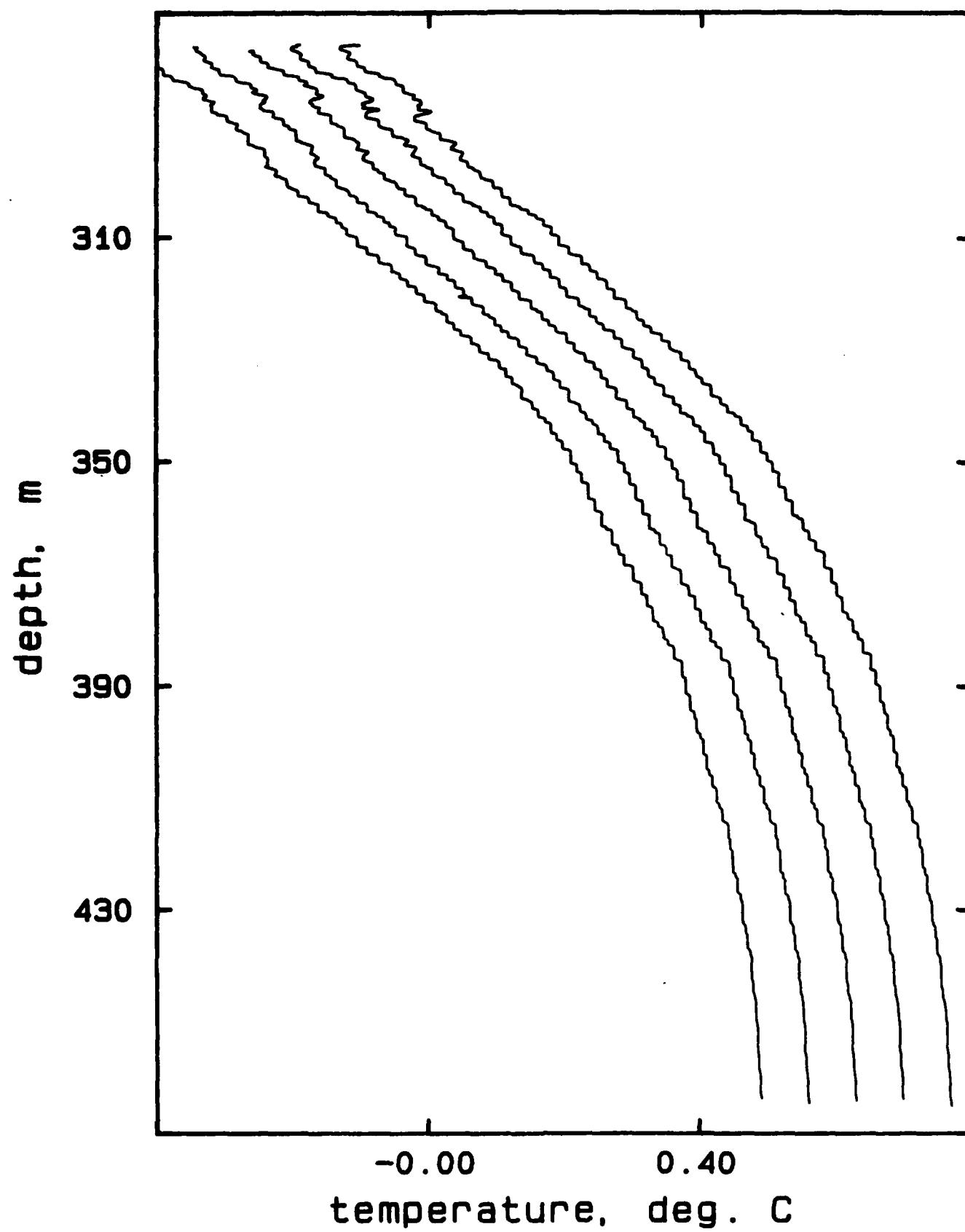
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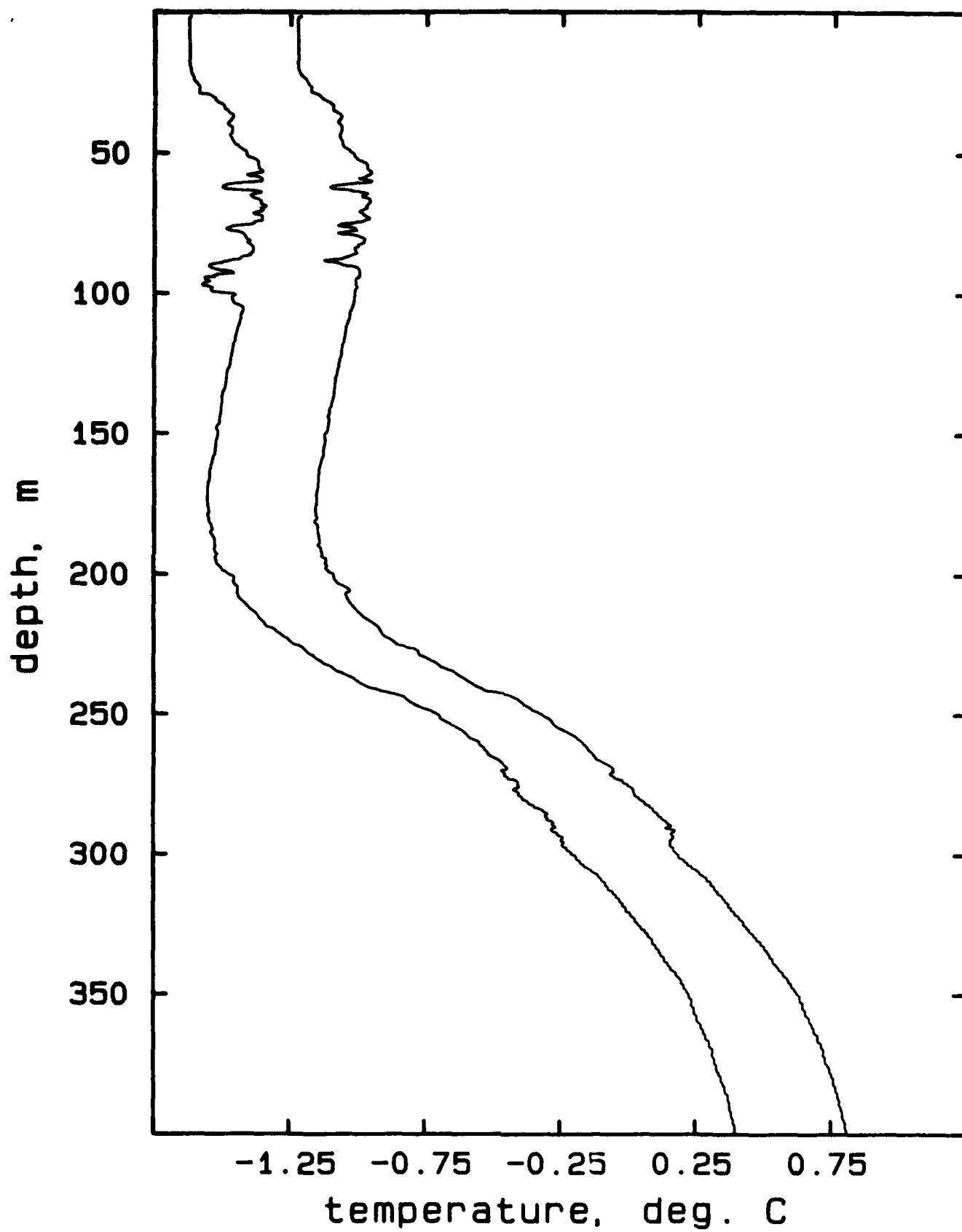


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## AR422B, drops 11-15

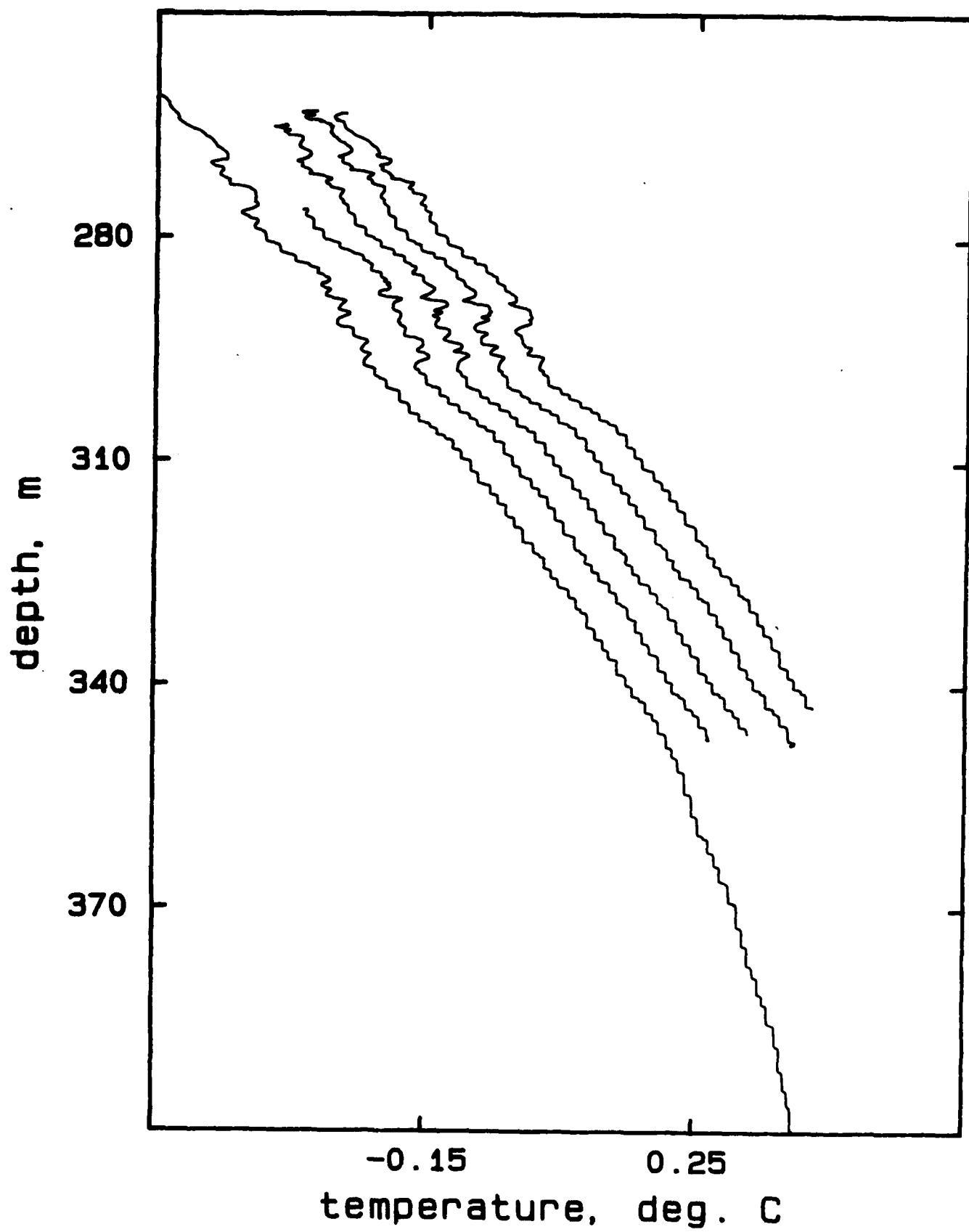


## AR422C, drops 1, 8

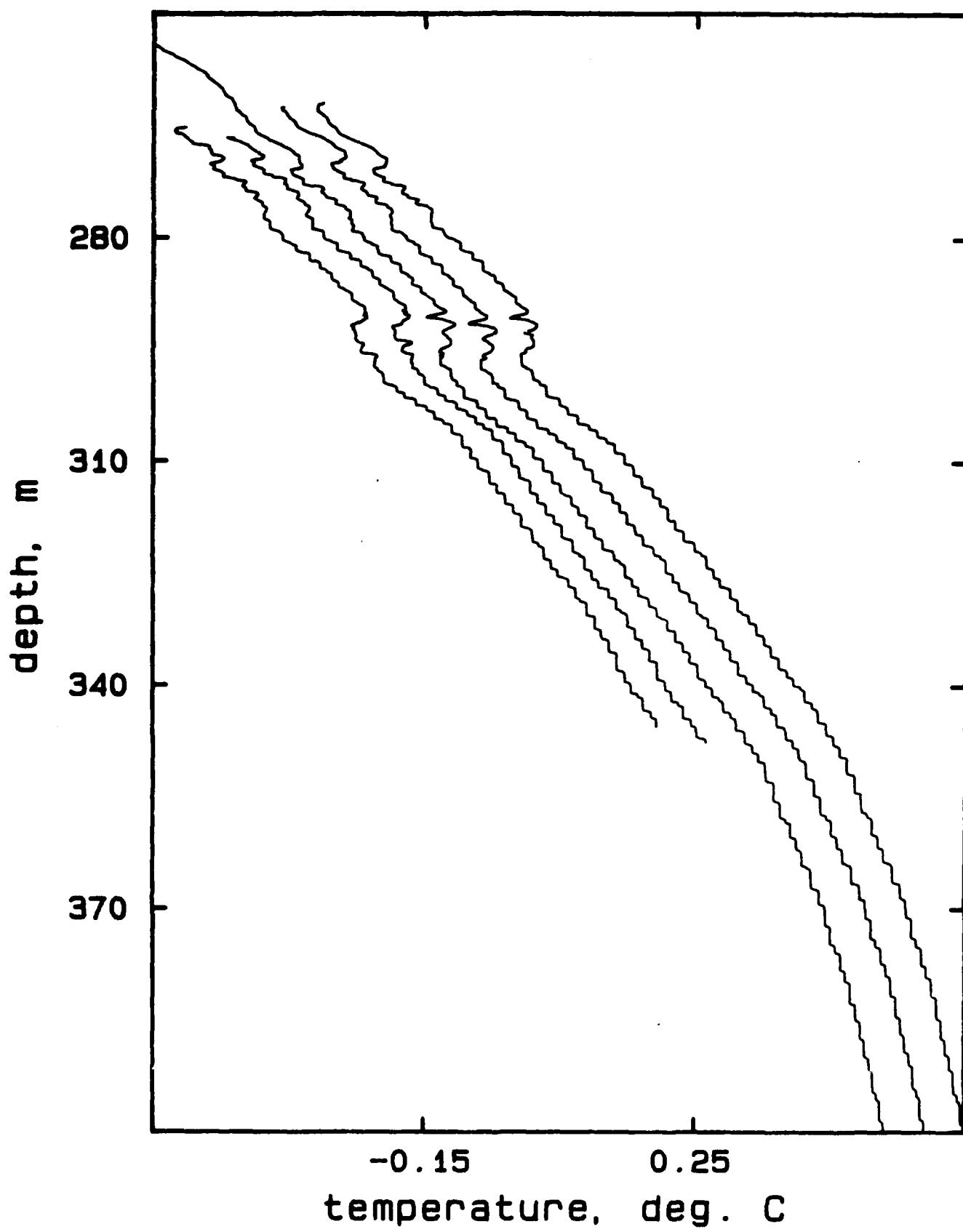


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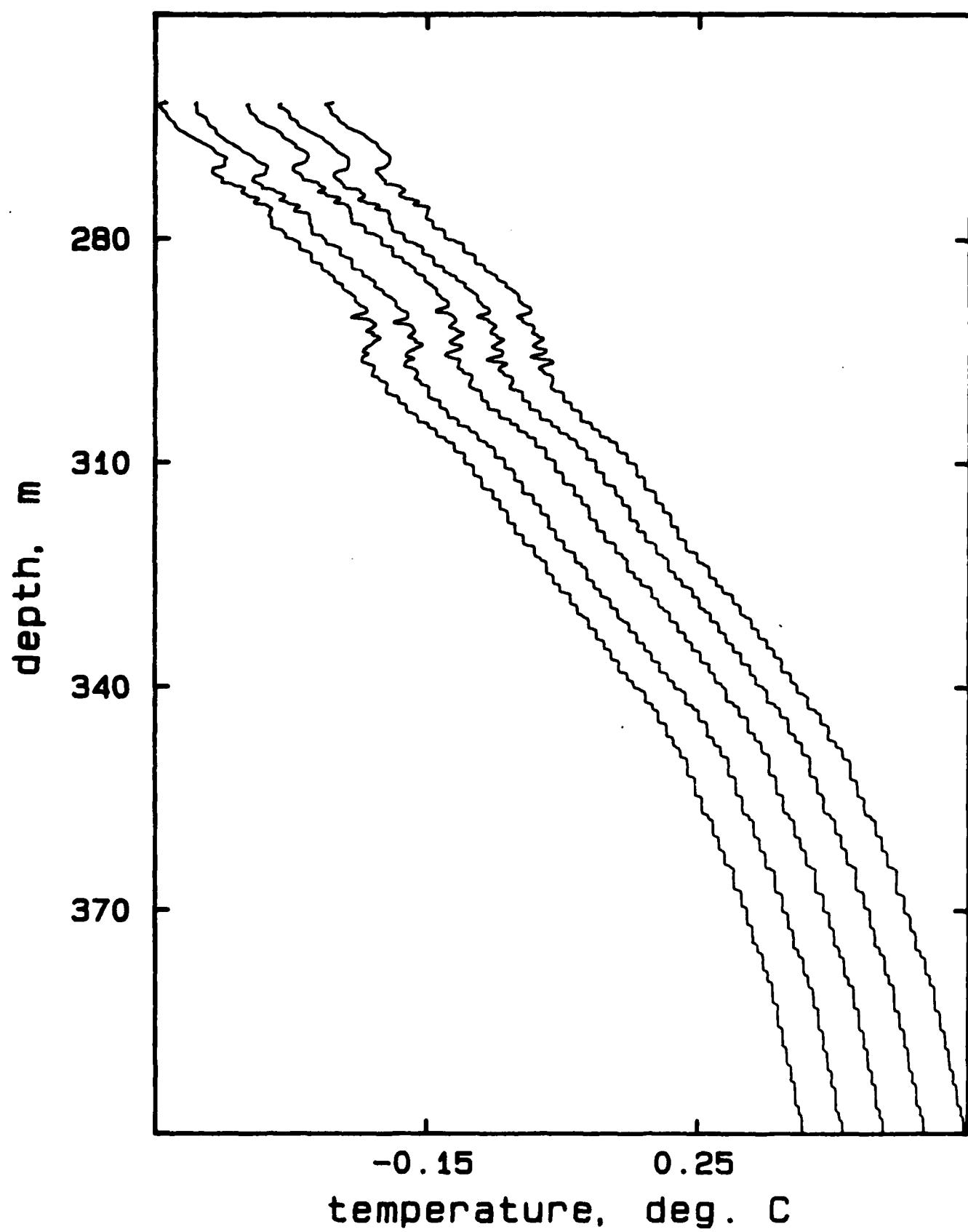
AR422C, drops 1-5



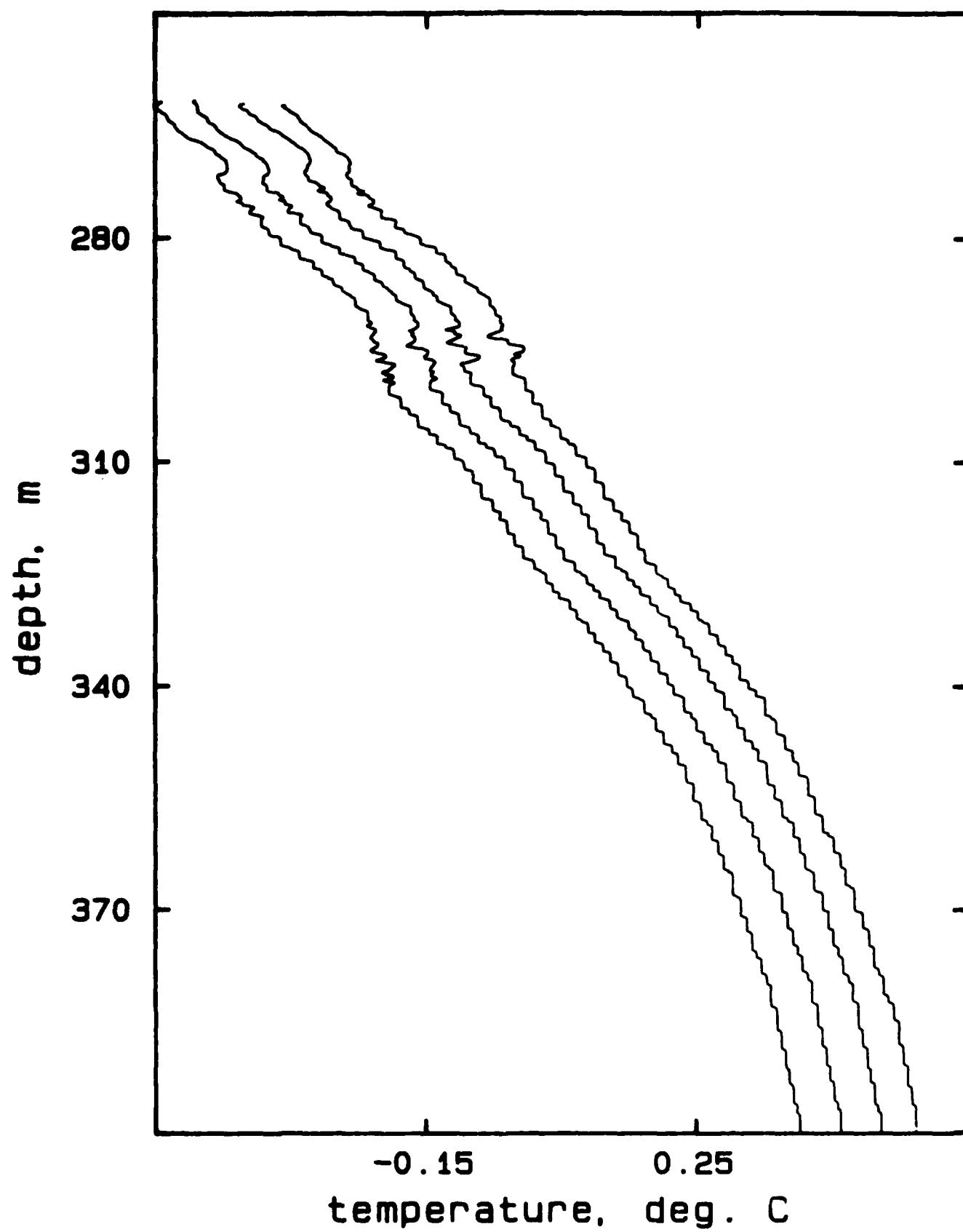
## AR422C, drops 6-10



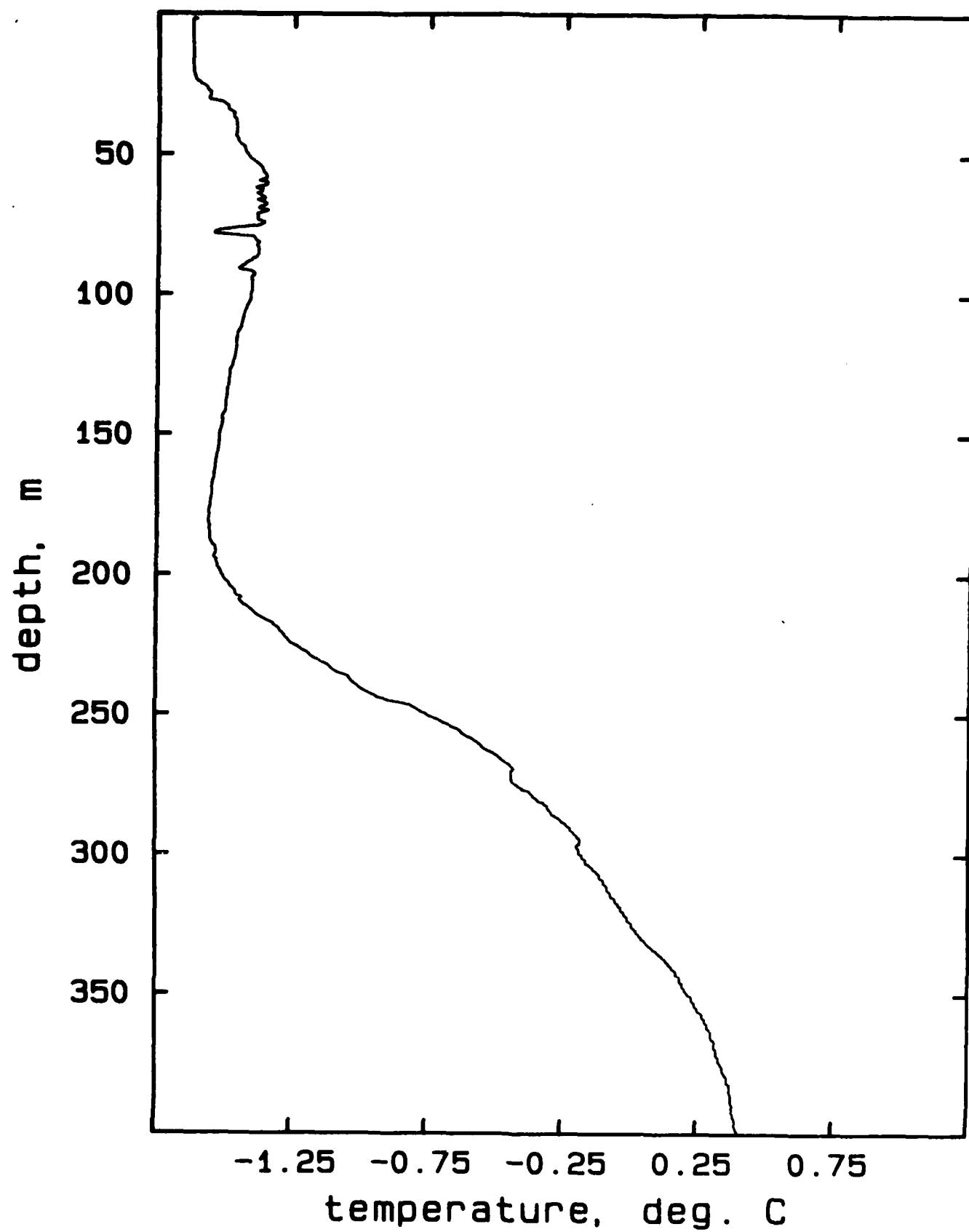
## AR422C, drops 11-15



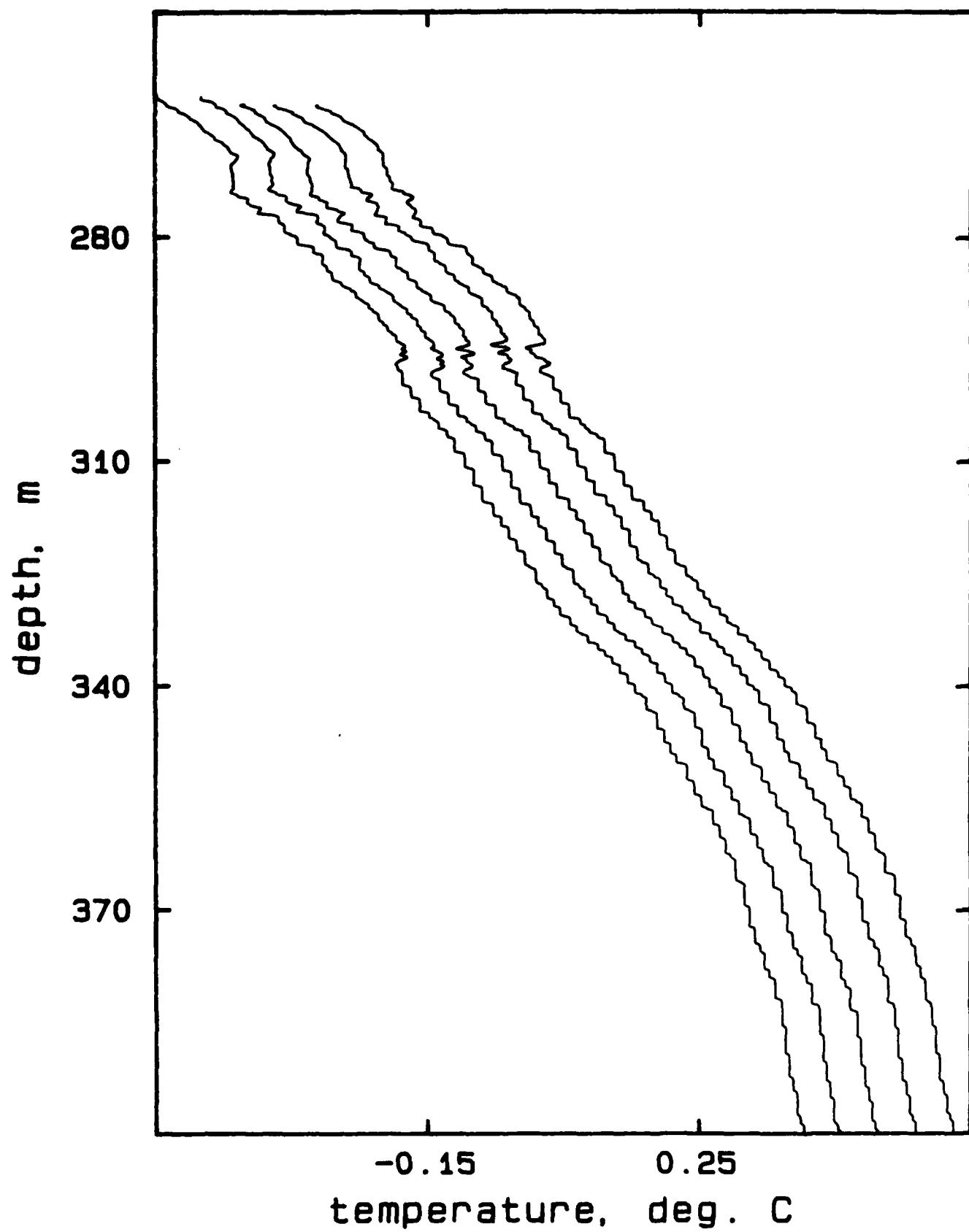
## AR422C, drops 16-18, 20



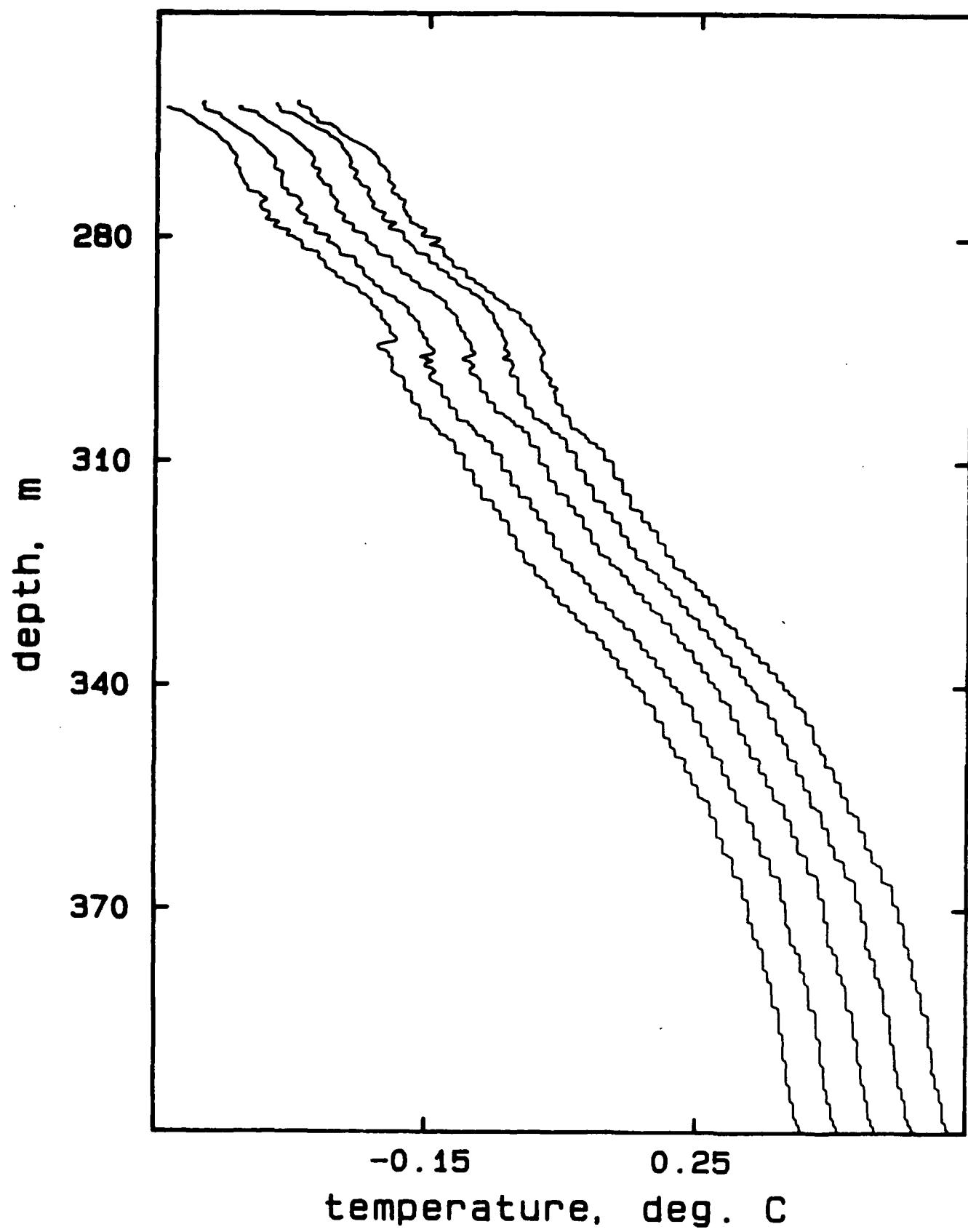
## AR422D, drop 1



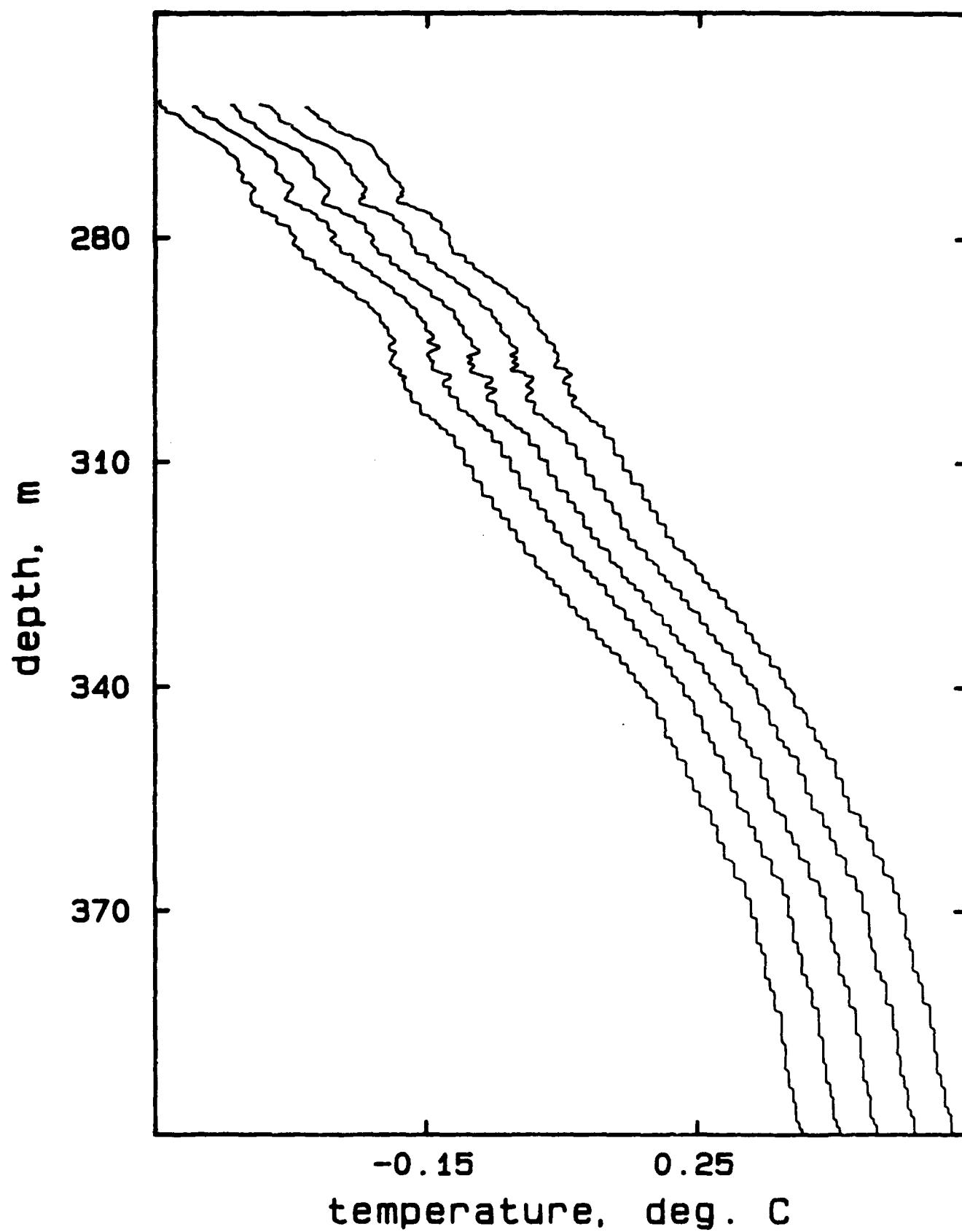
## AR422D, drops 1-5



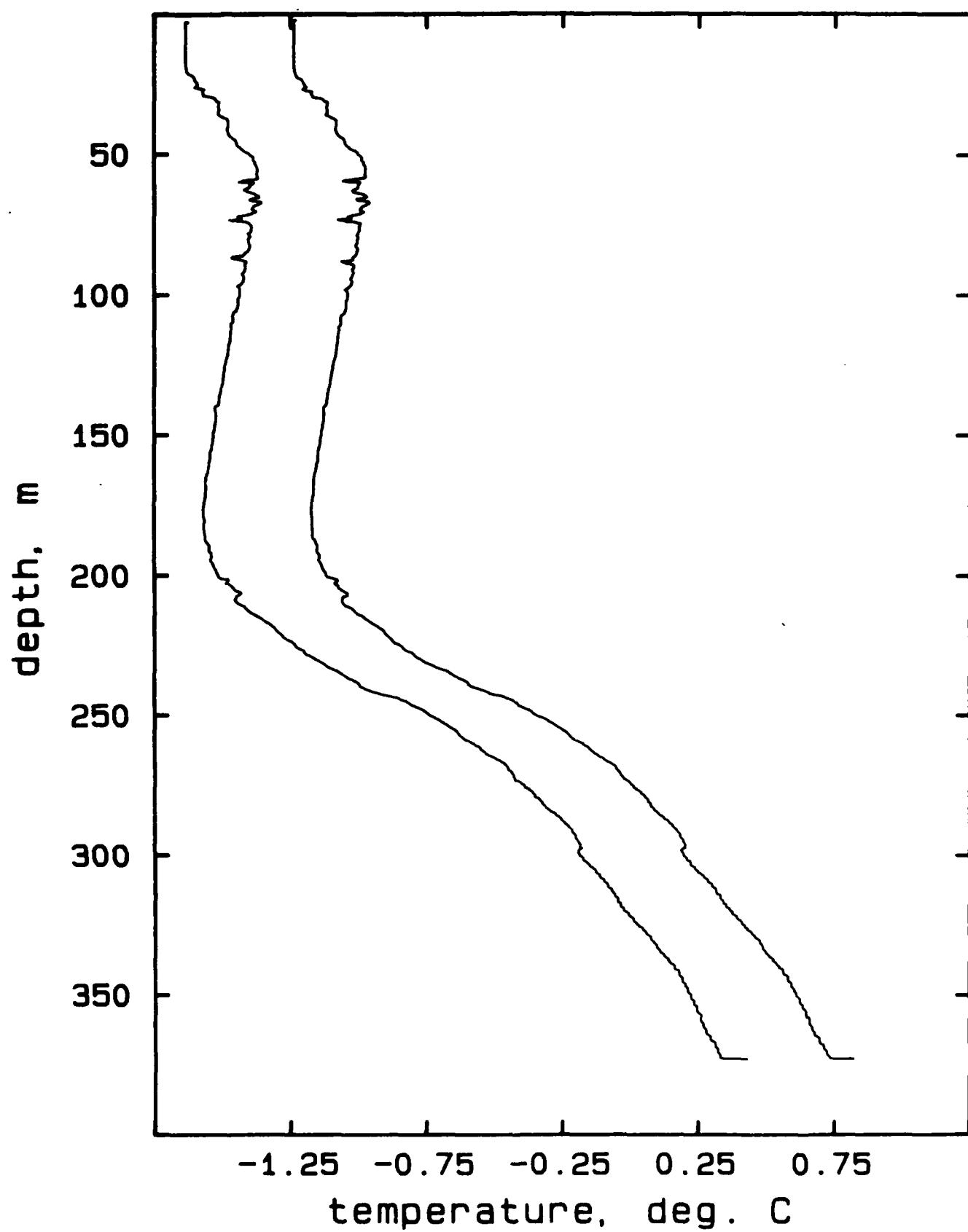
## AR422D, drops 6-10



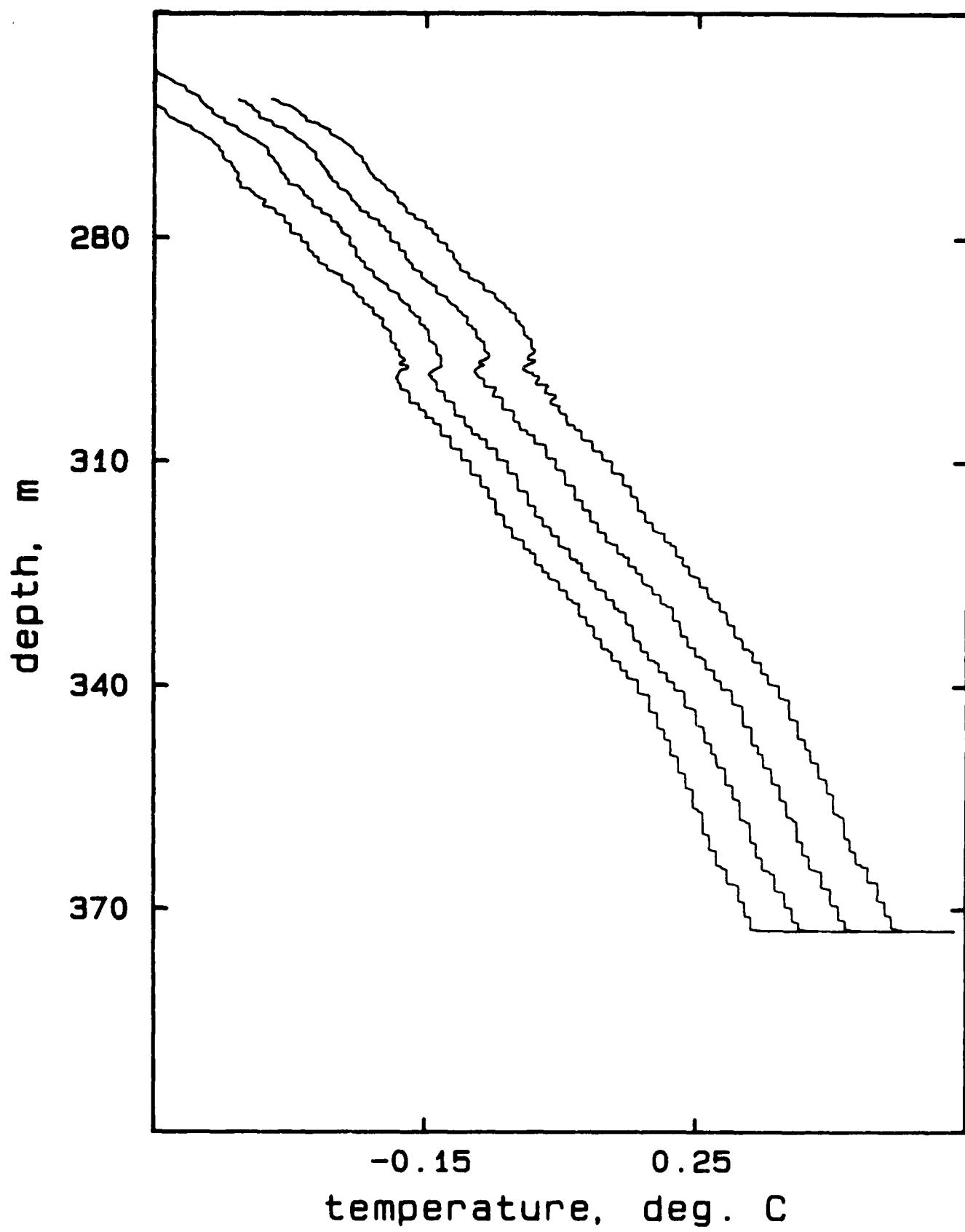
## AR422D, drops 11-15



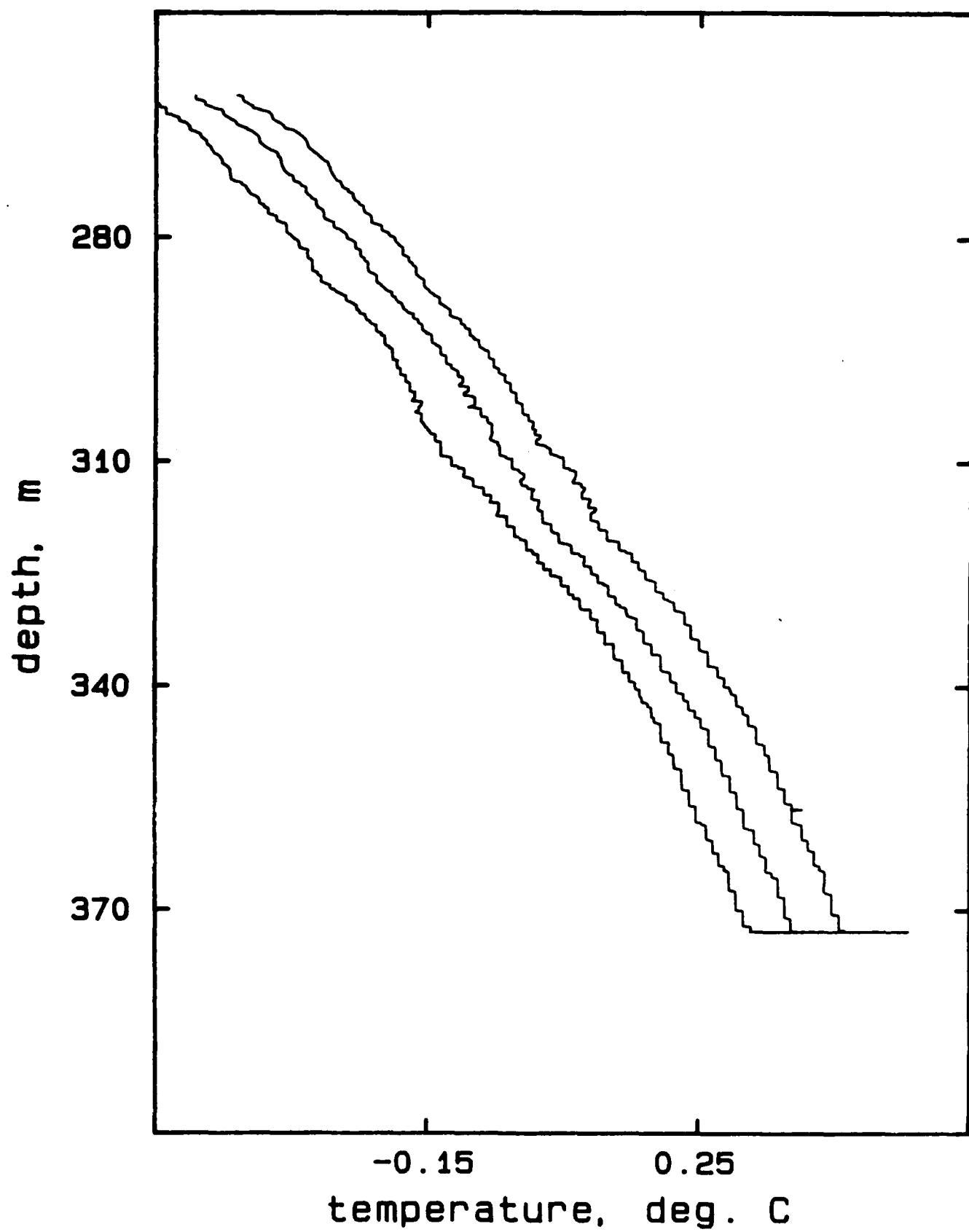
## AR422E, drops 1, 2



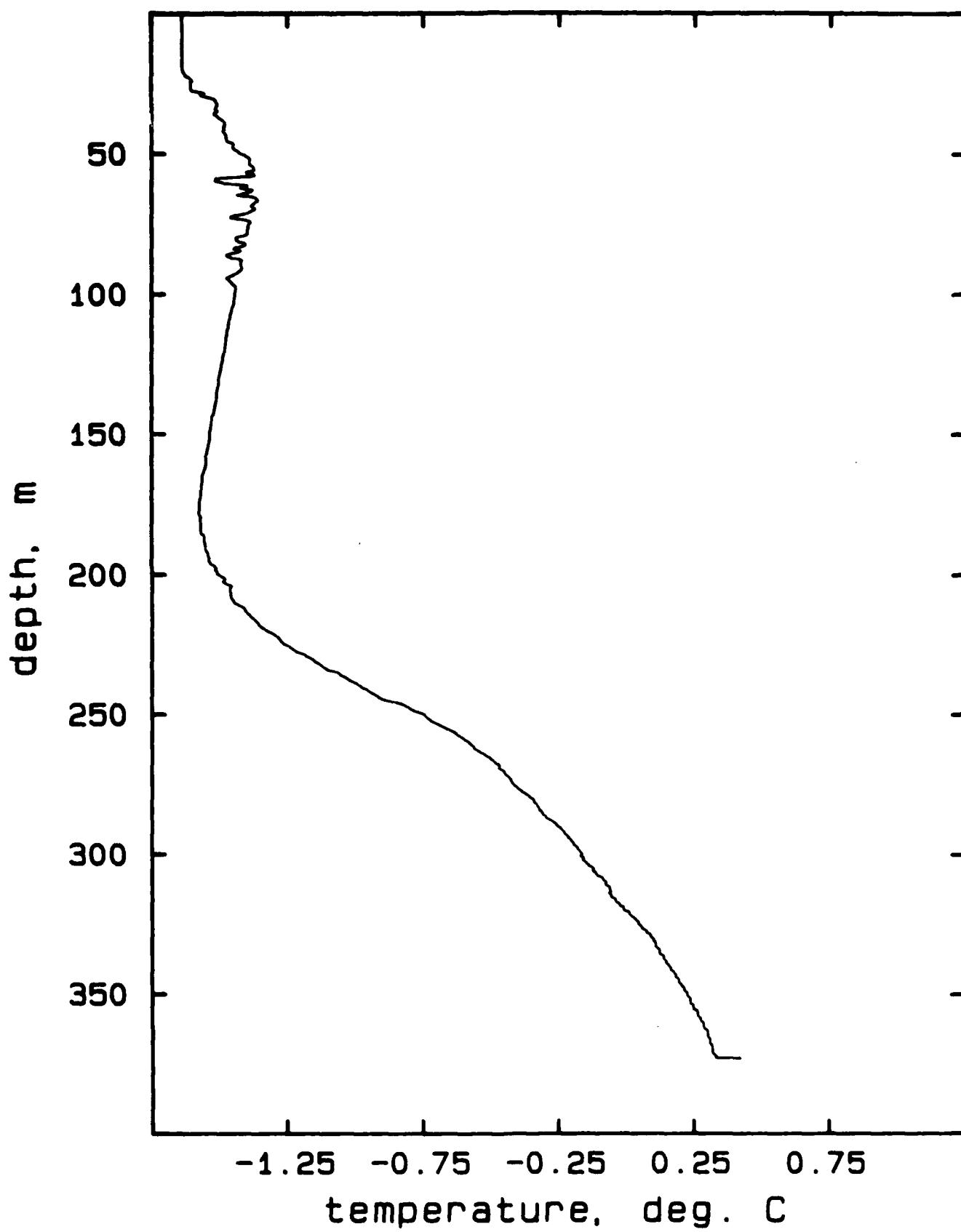
## AR422E, drops 1-4



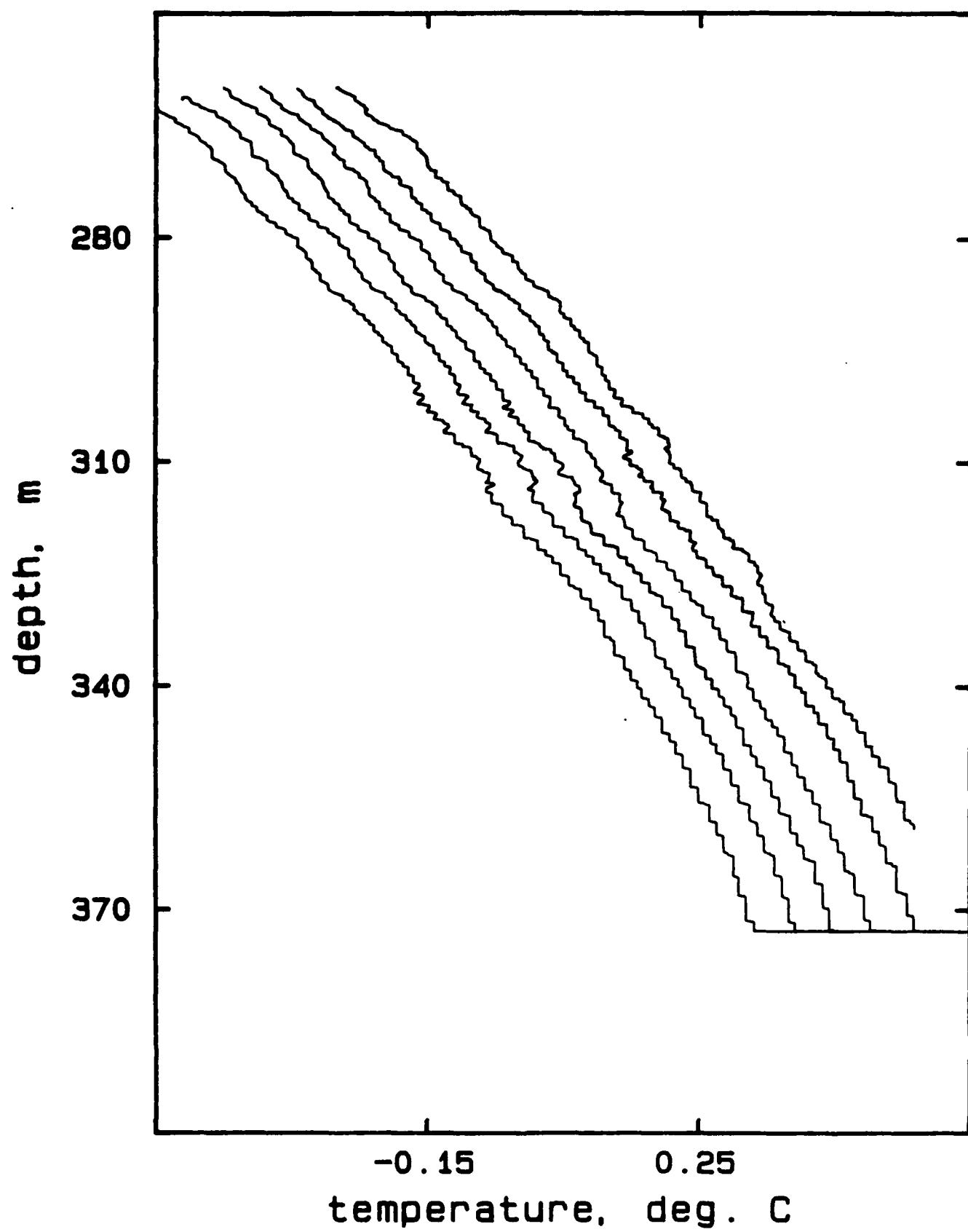
## AR422E, drops 5-7



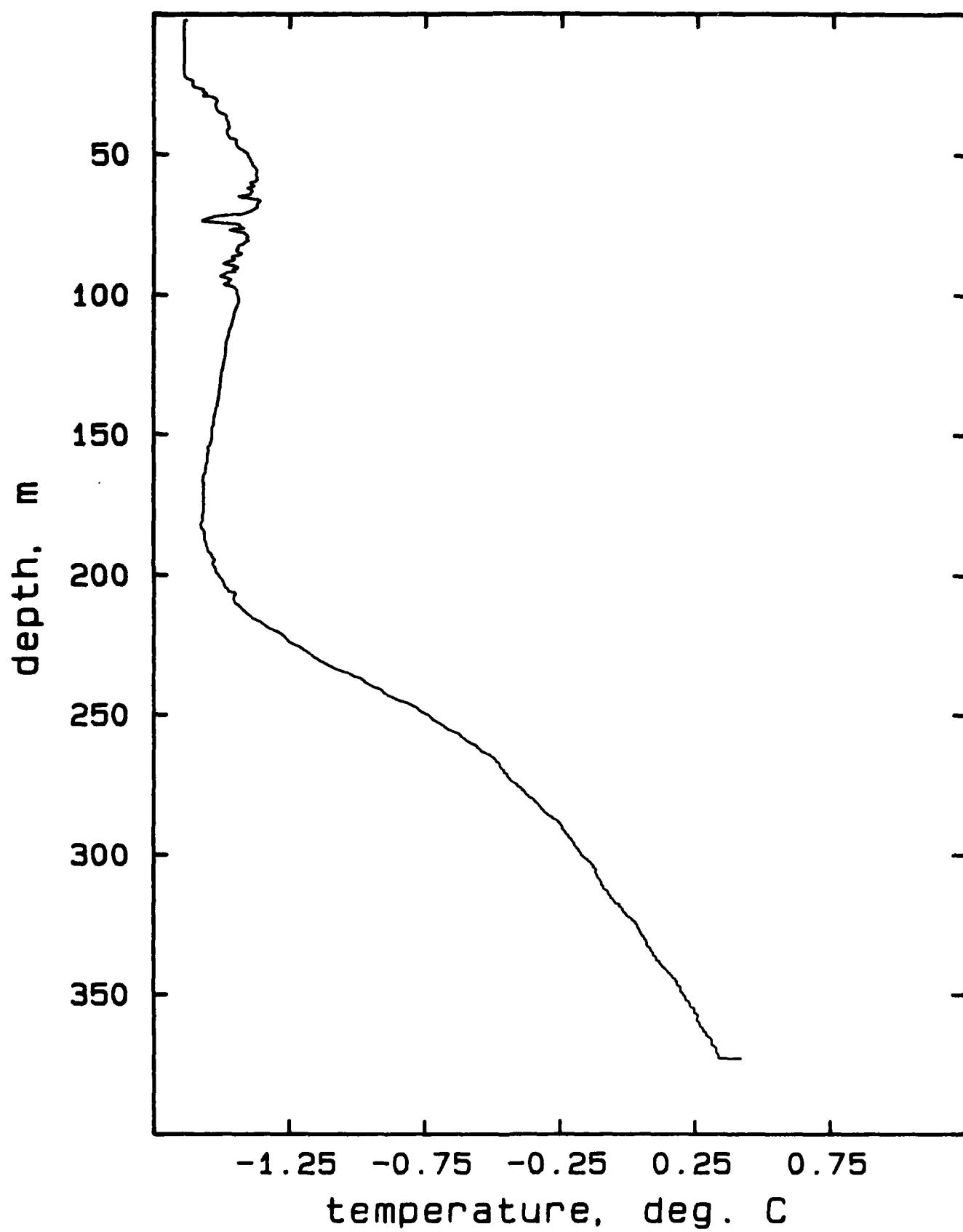
## AR422F, drop 1



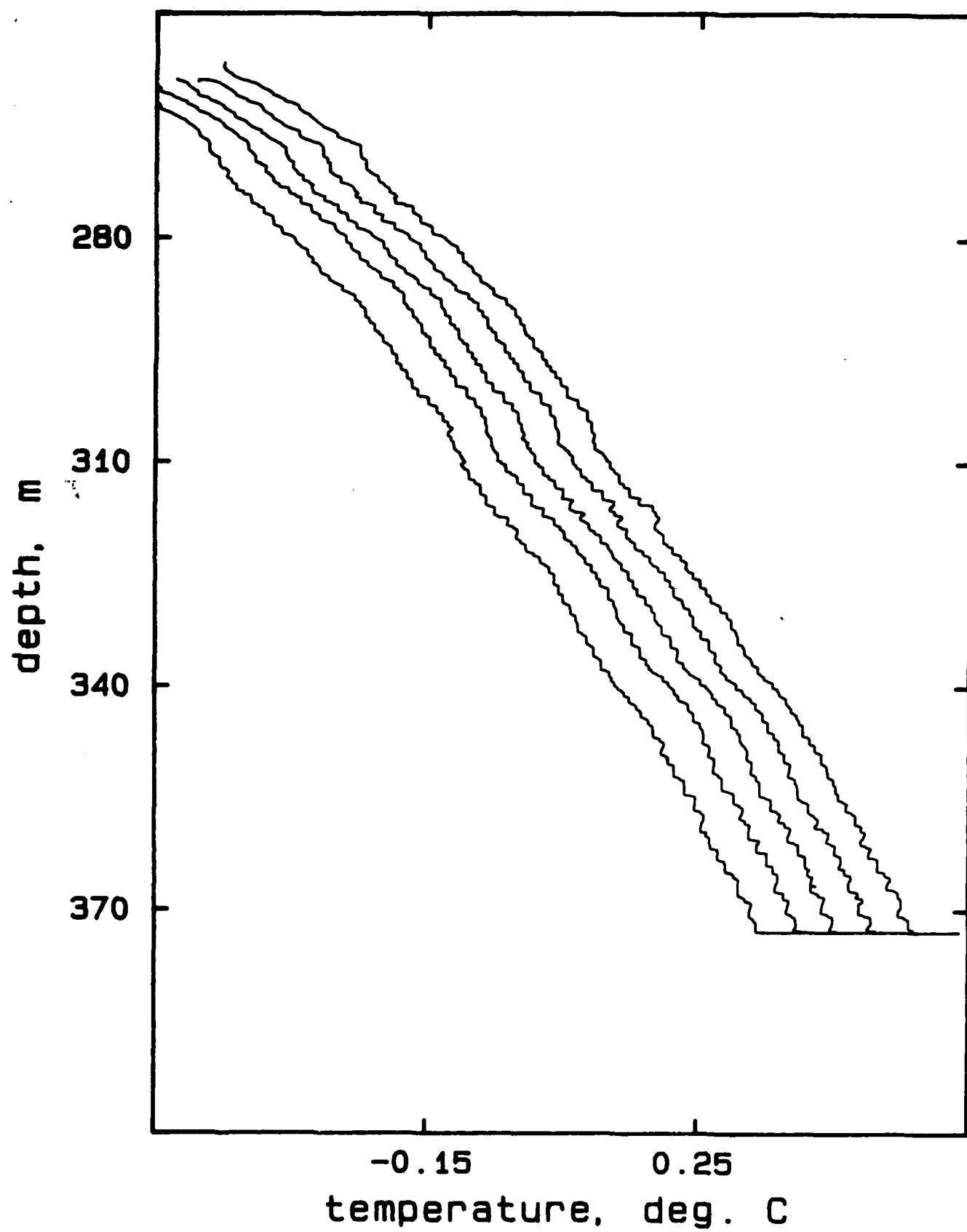
## AR422F, drops 1-6



## AR422G, drop 1

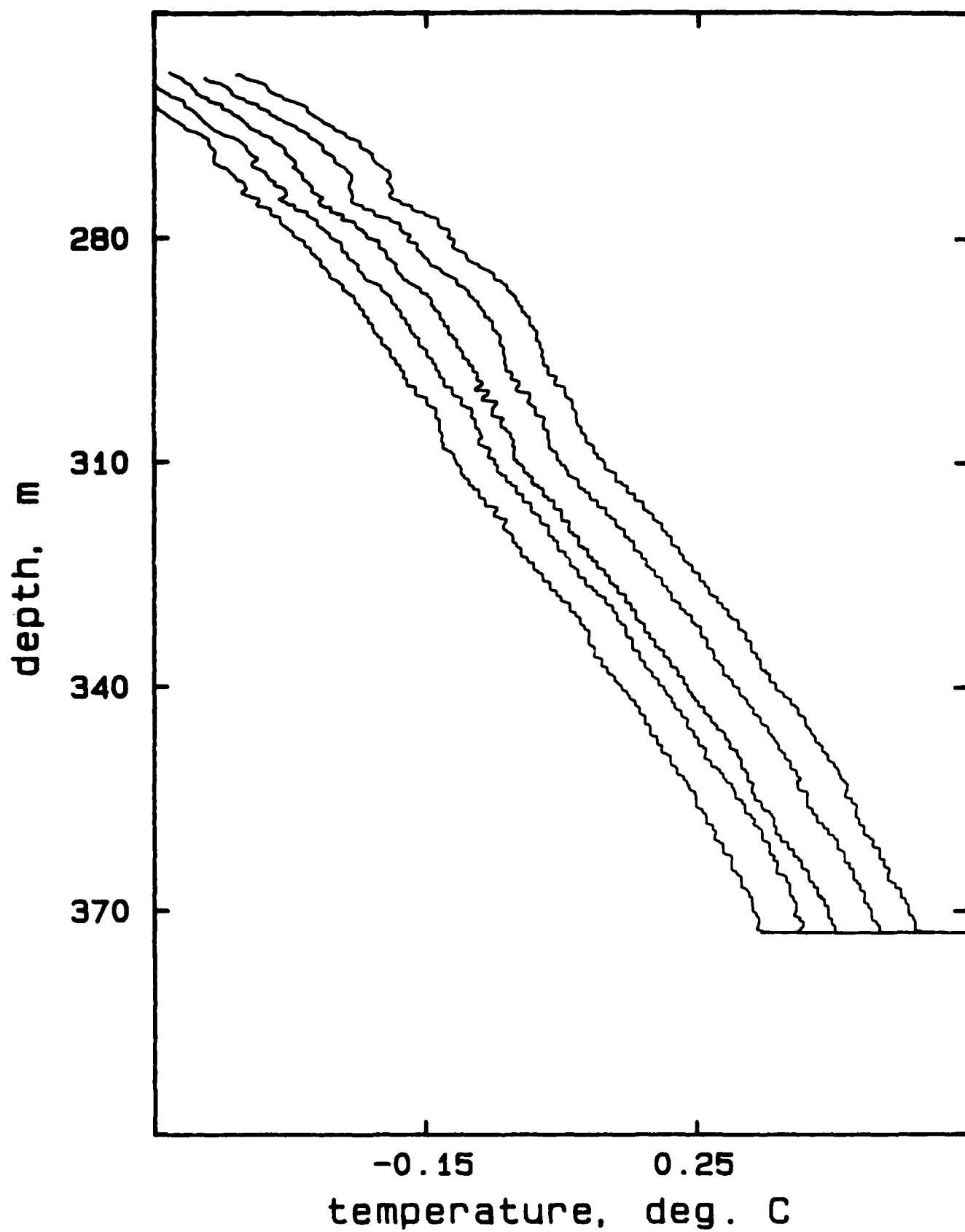


## AR422G, drops 1-5

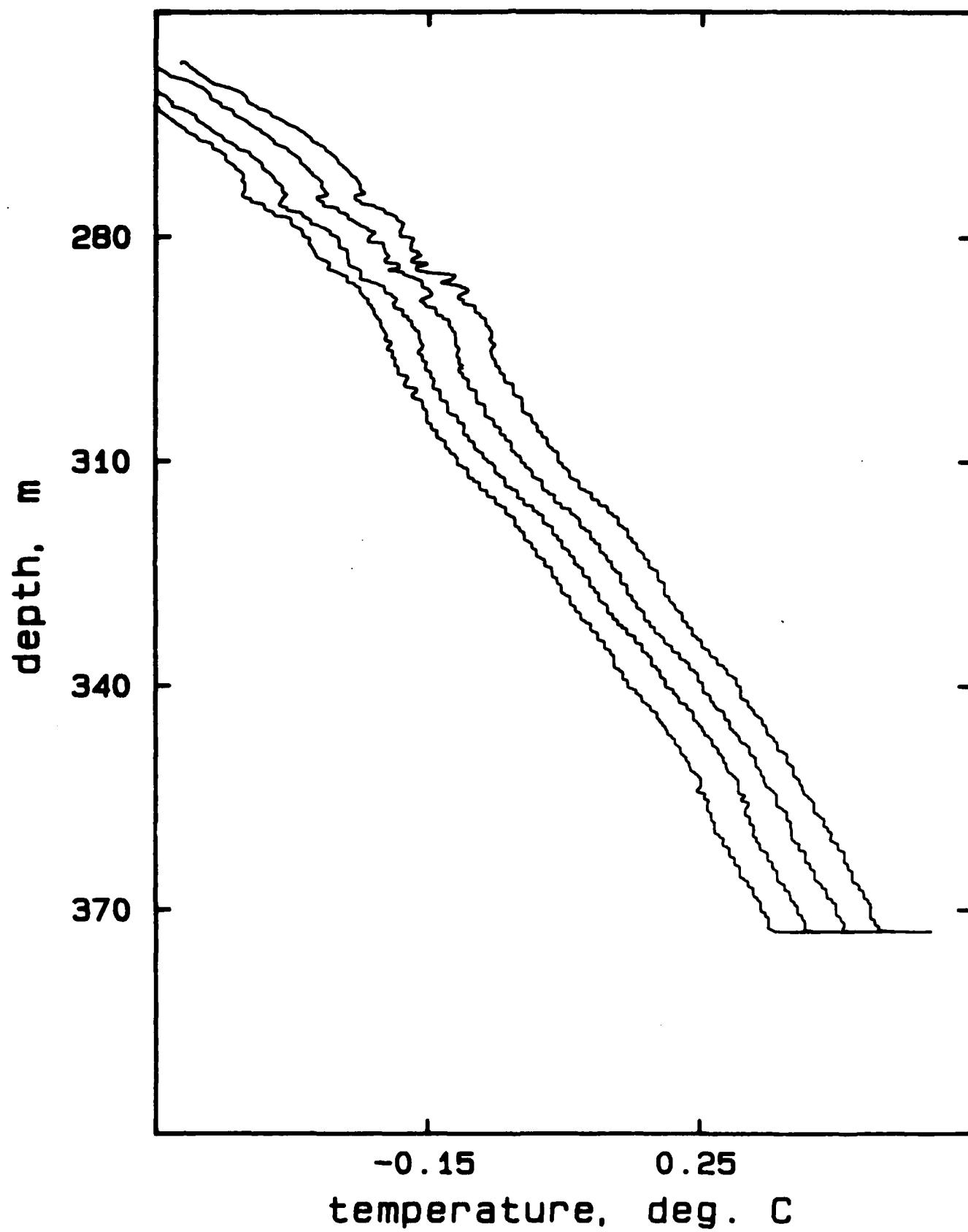


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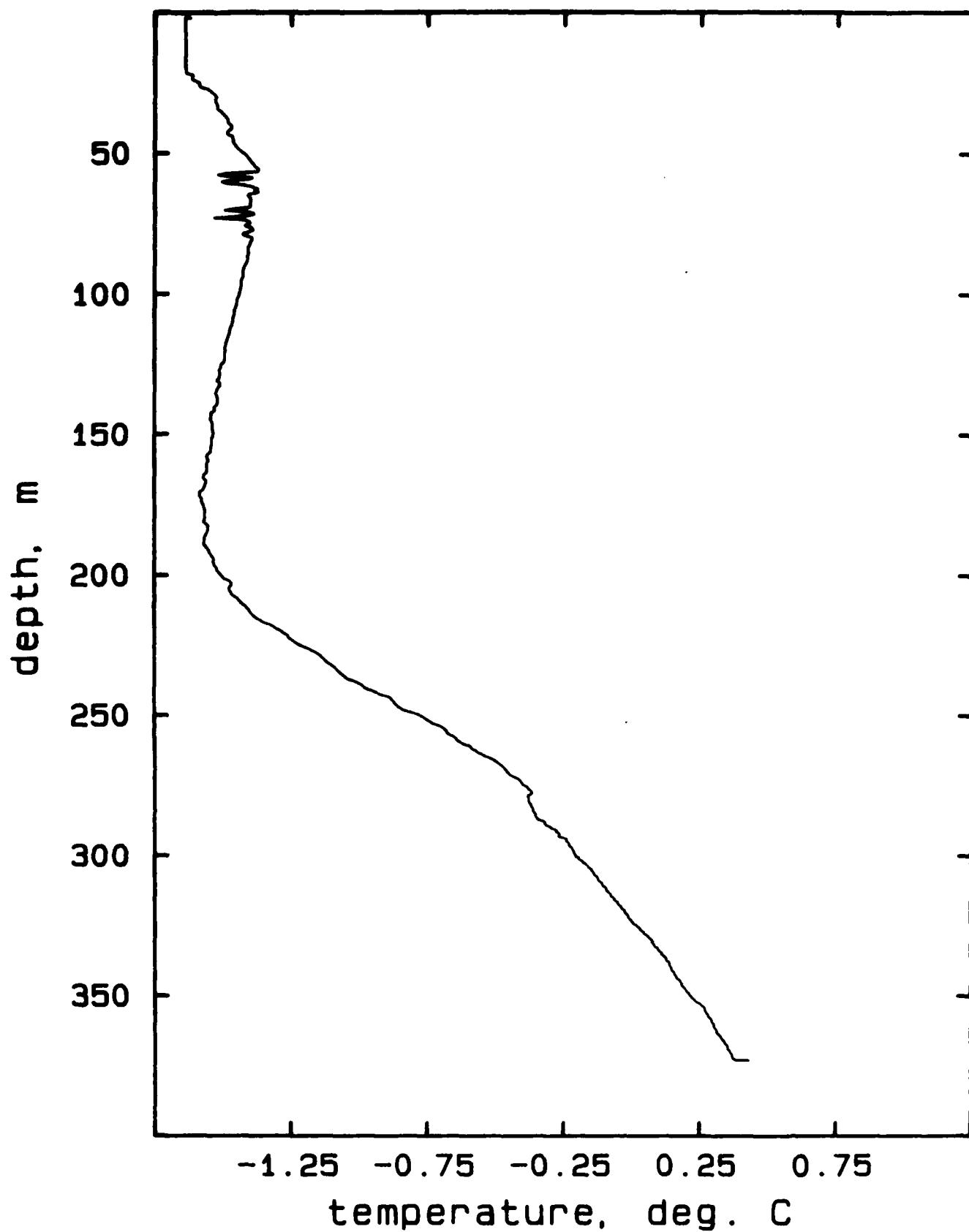
## AR422G, drops 6-10



## AR422G, drops 11-14

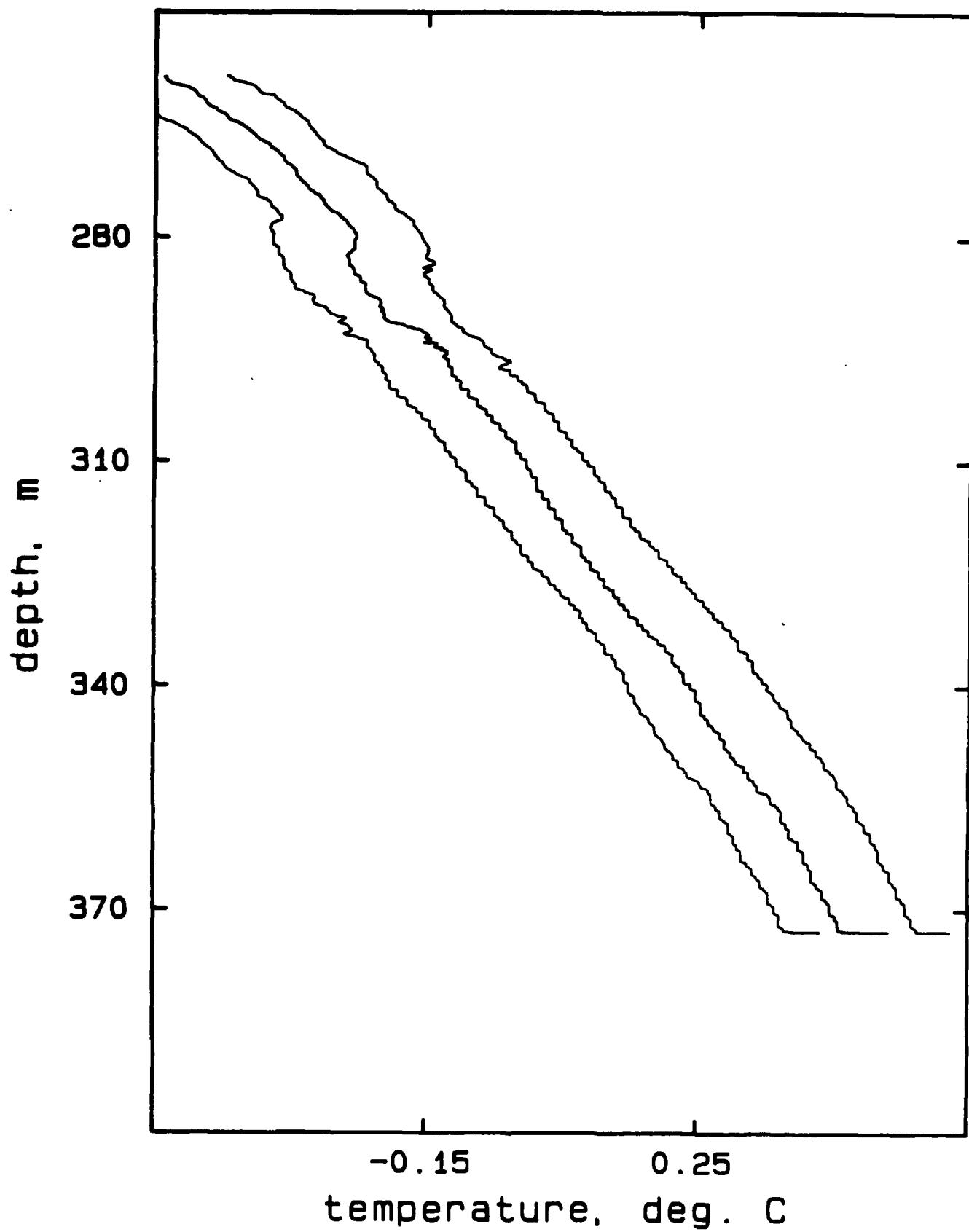


## AR422H, drop 1

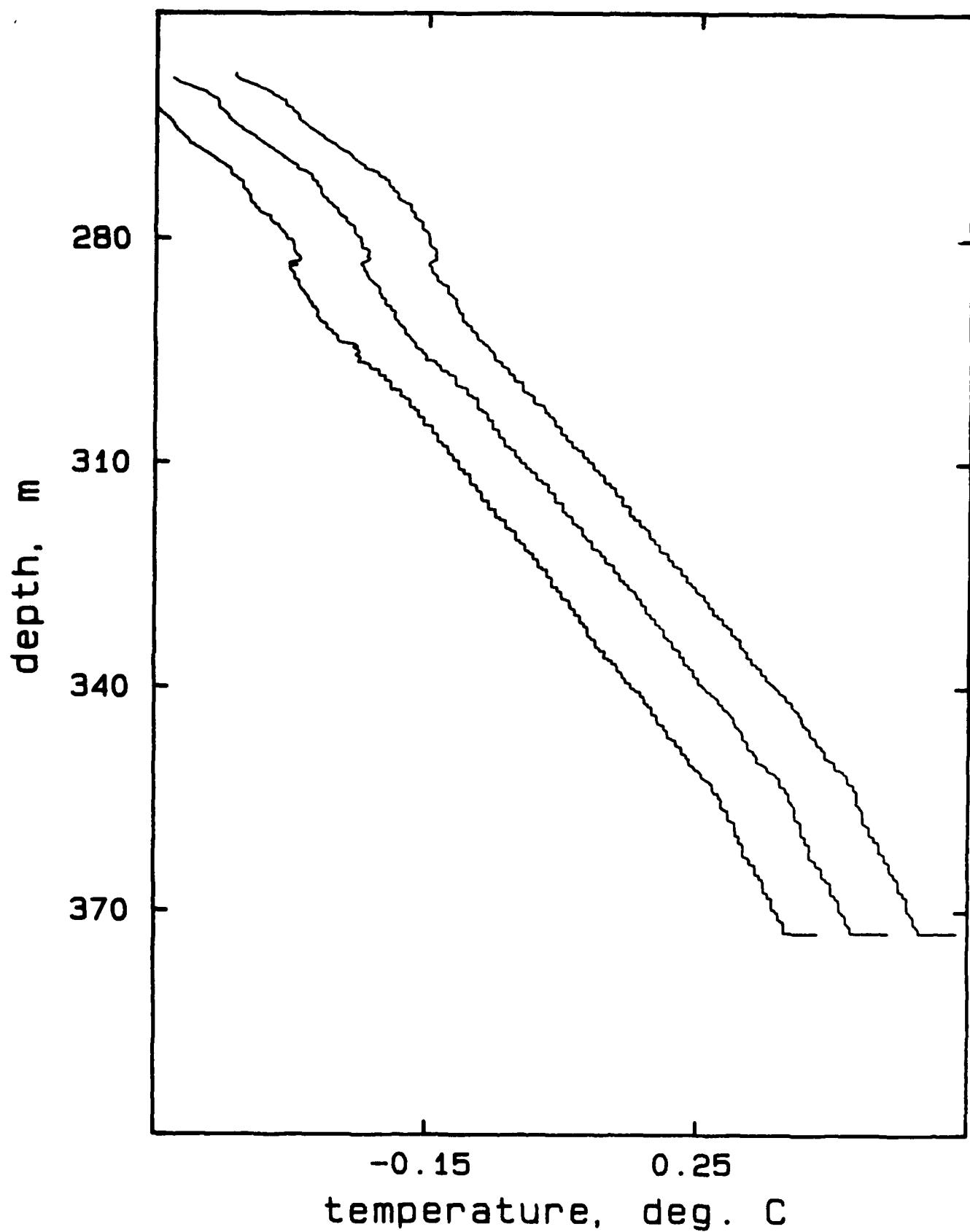


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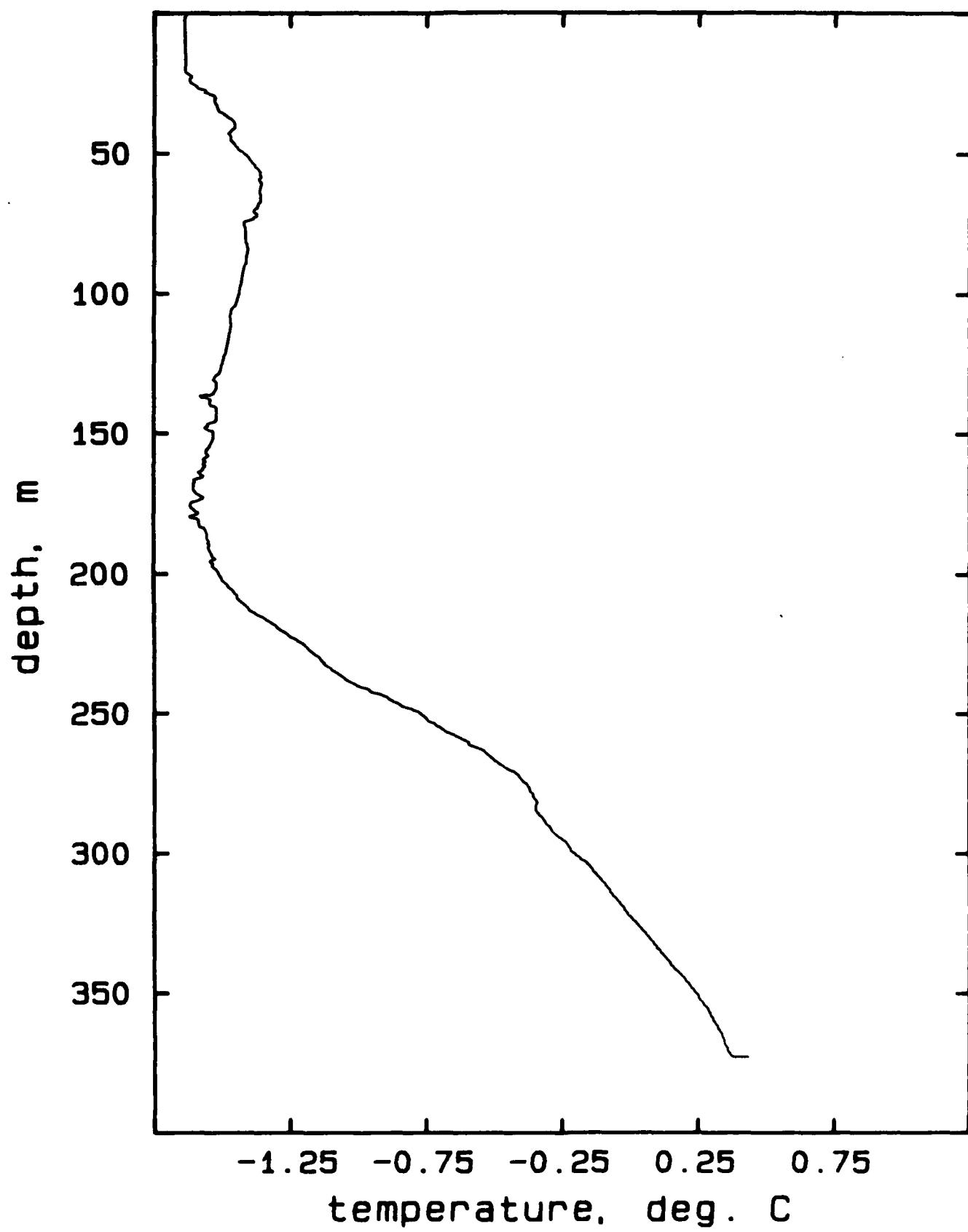
## AR422H, drops 1-3



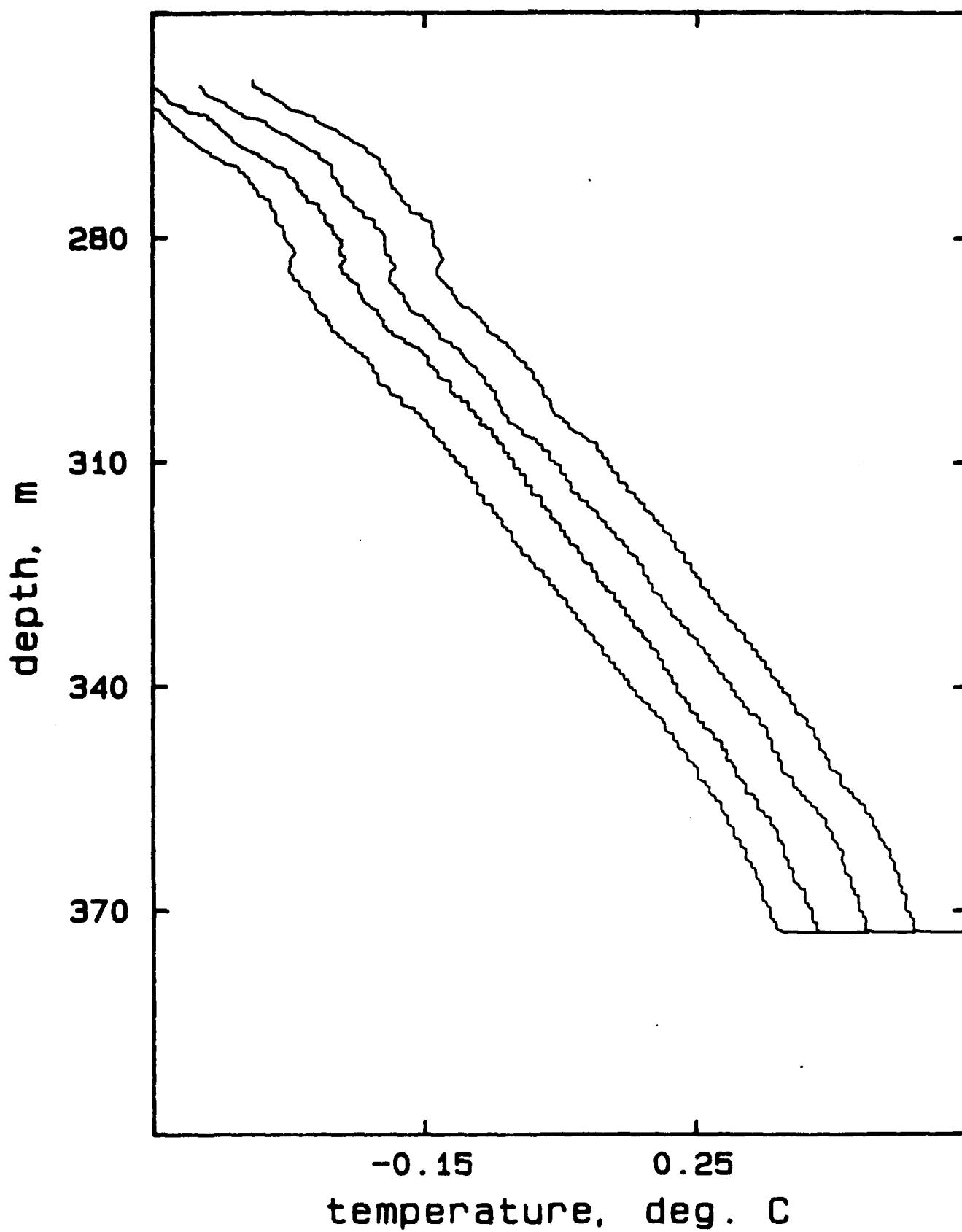
## AR422H, drops 4-6



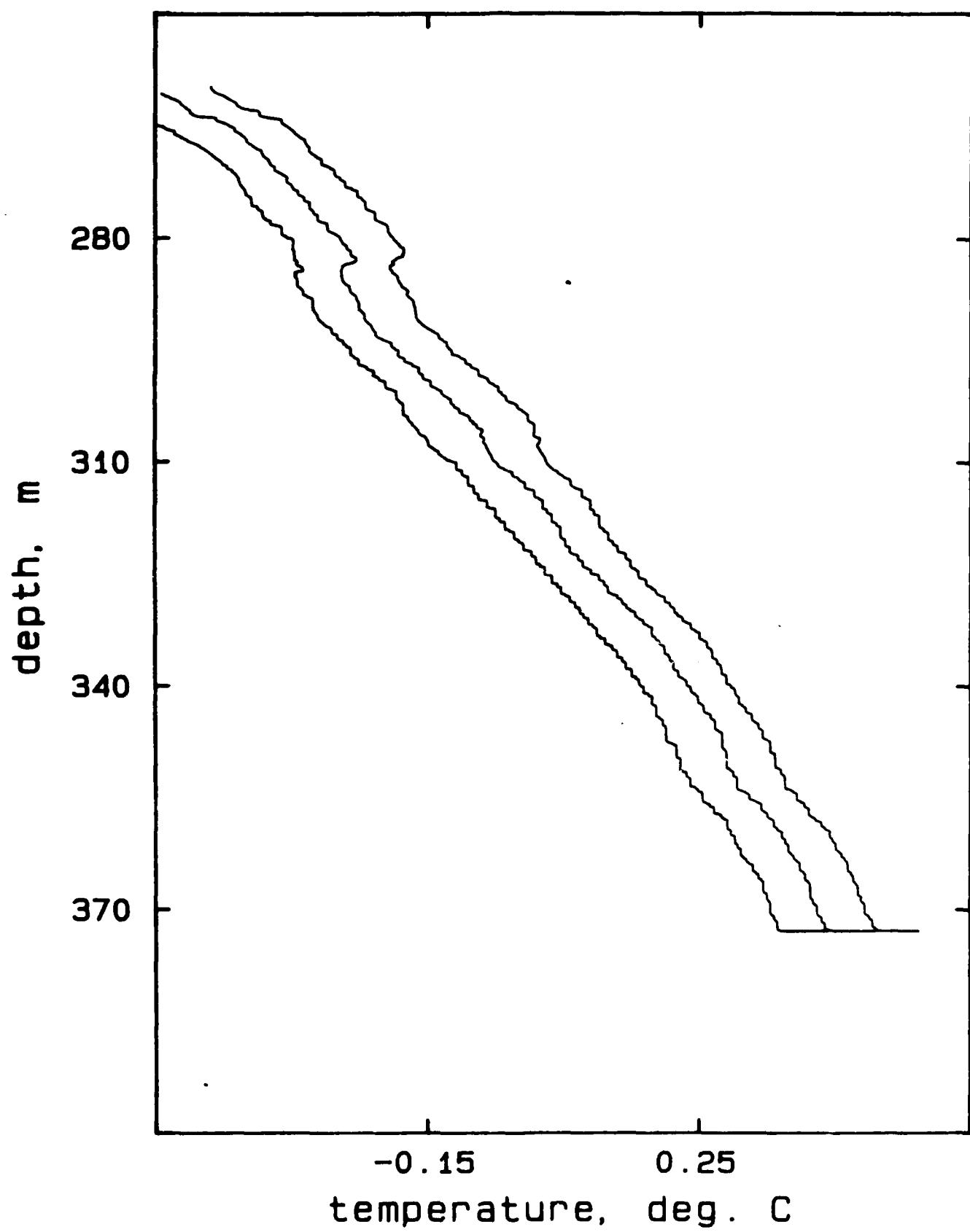
## AR422I, drop 1



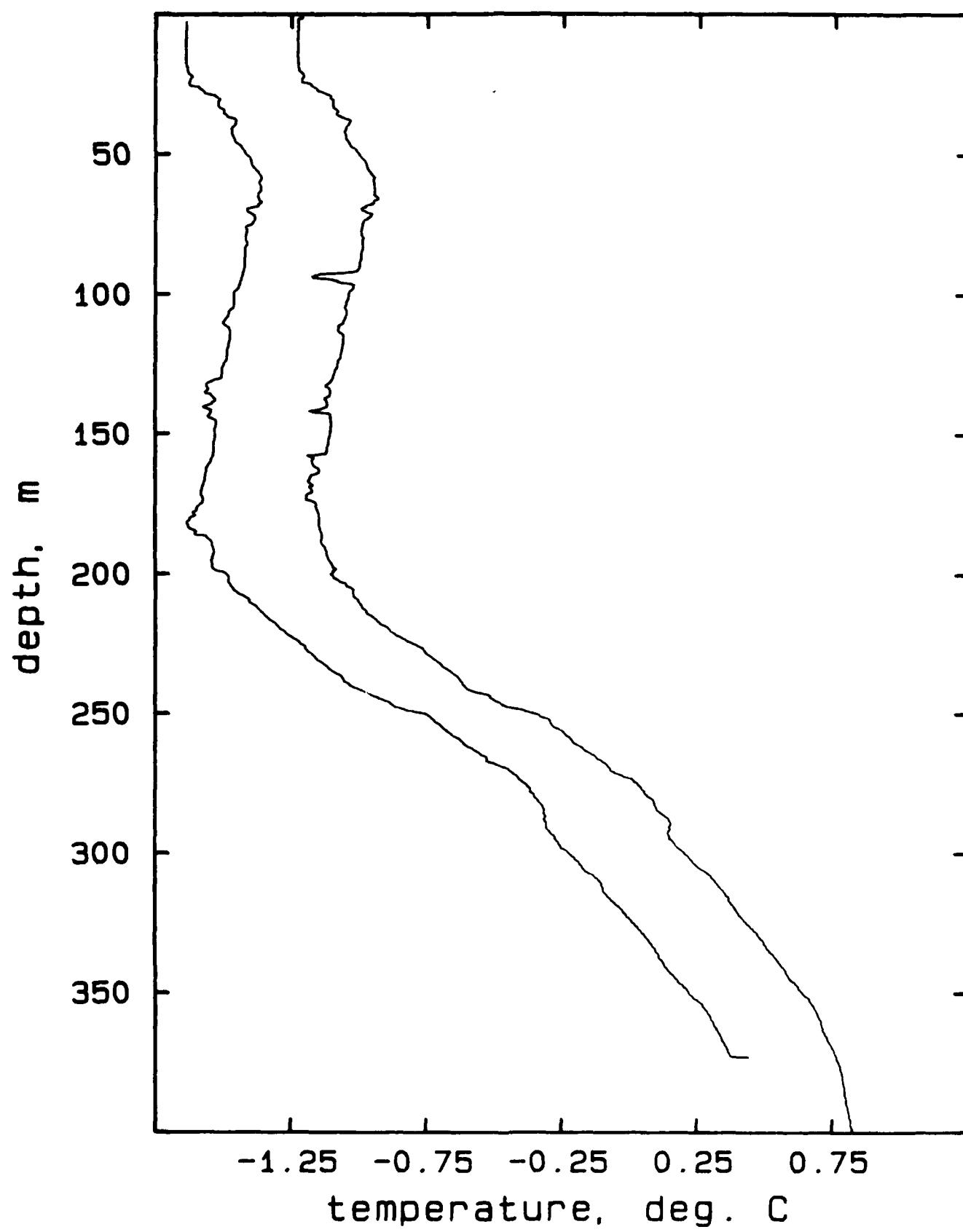
## AR422I, drops 1-4



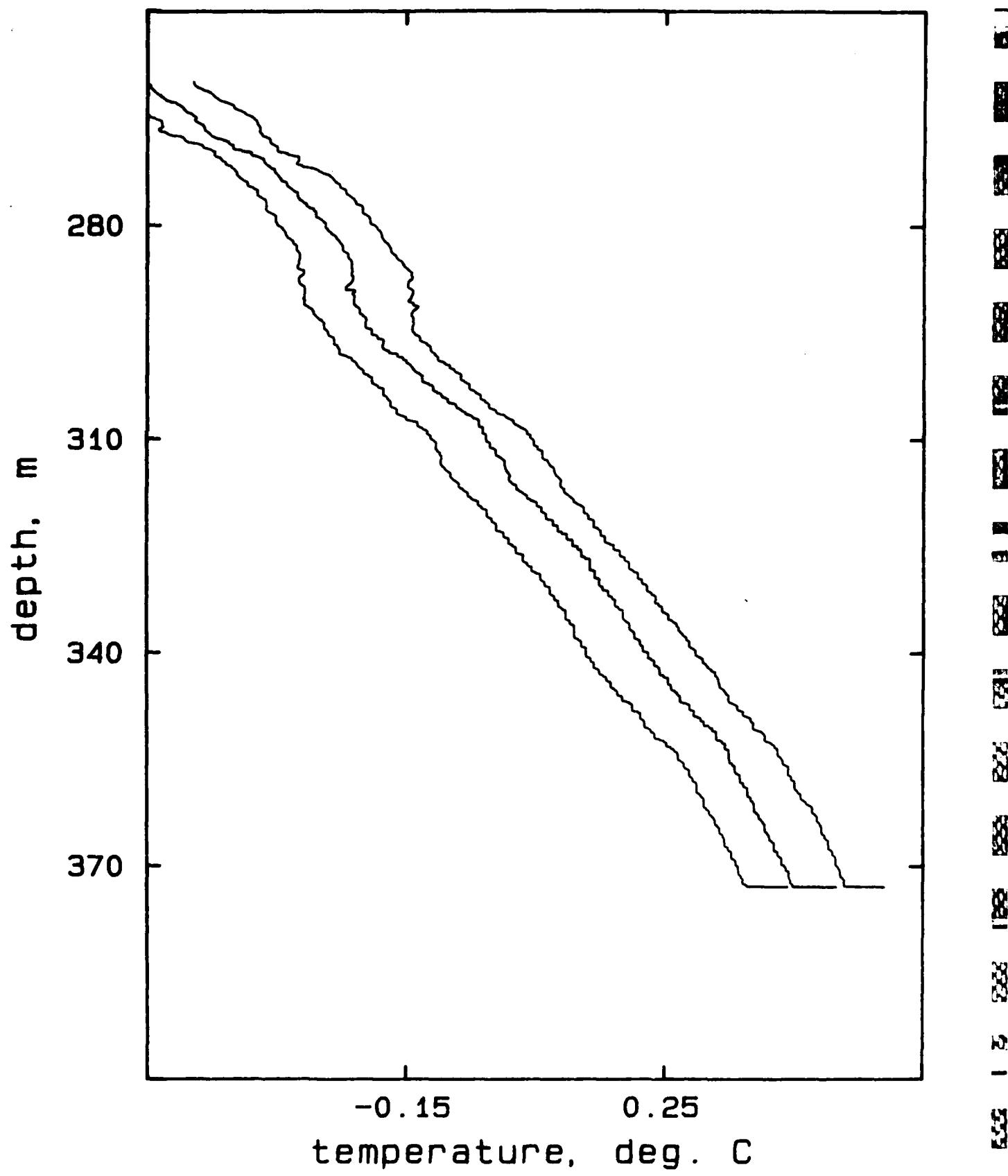
## AR422I, drops 5-7



## AR422J, drops 1, 4

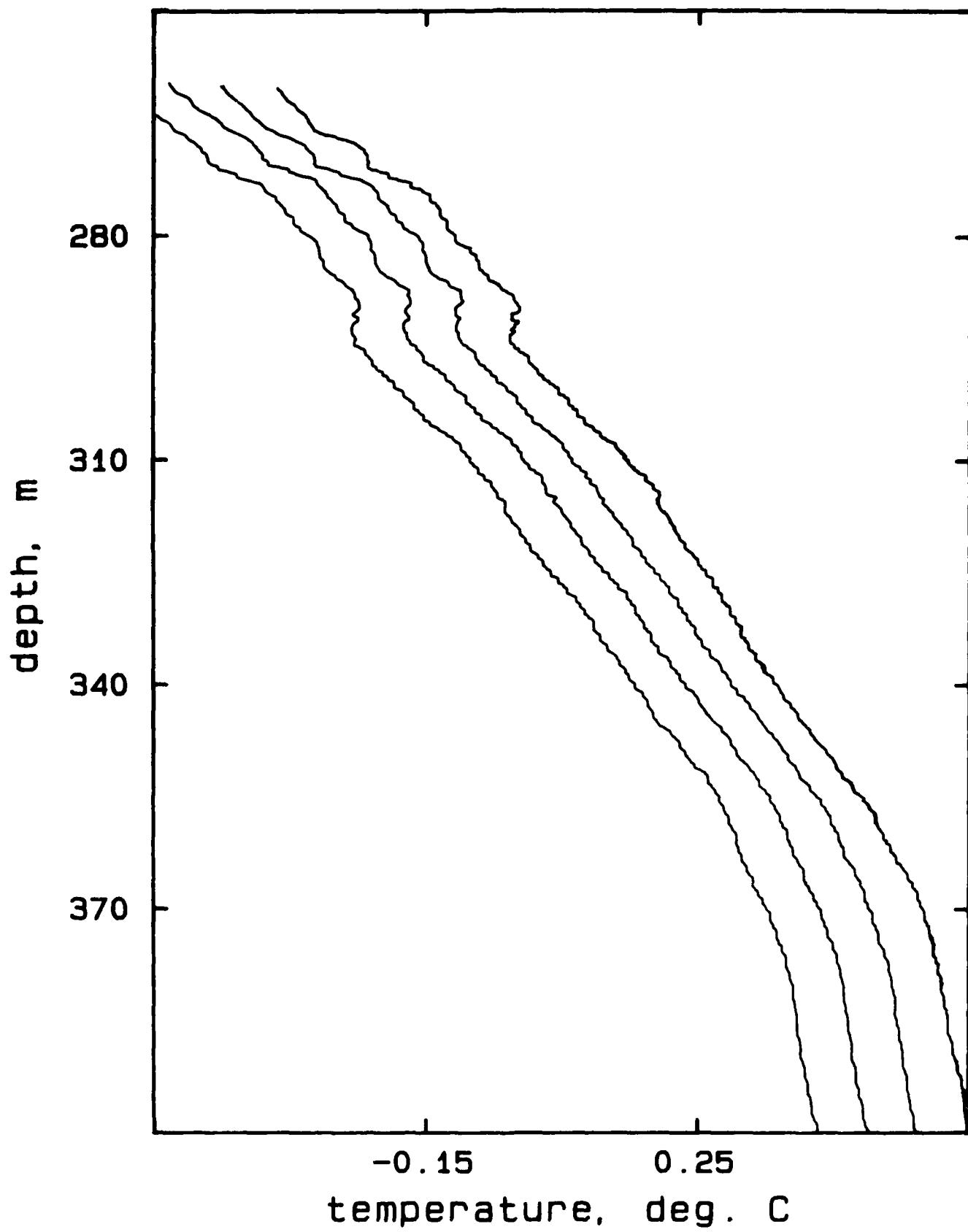


## AR422J, drops 1-3

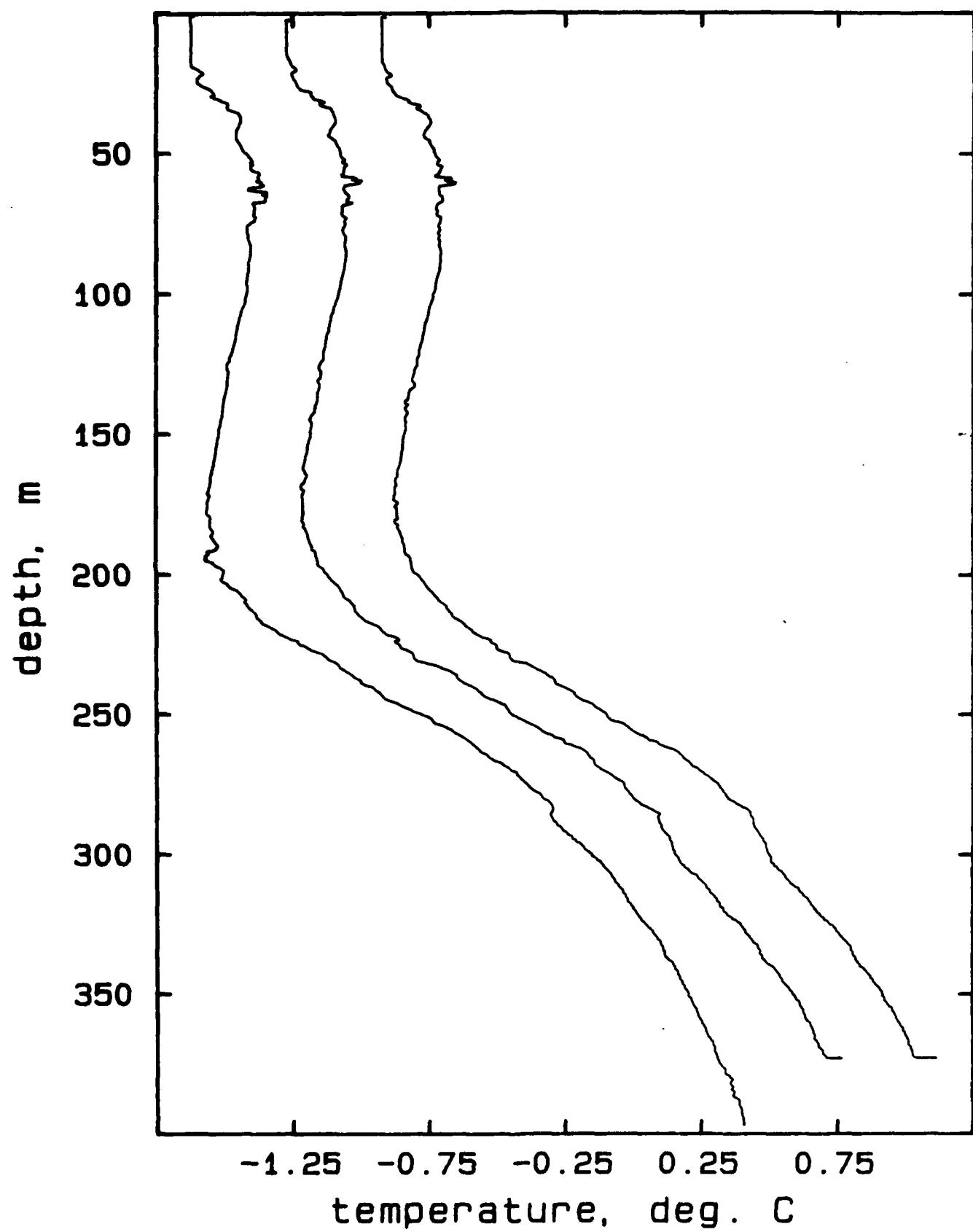


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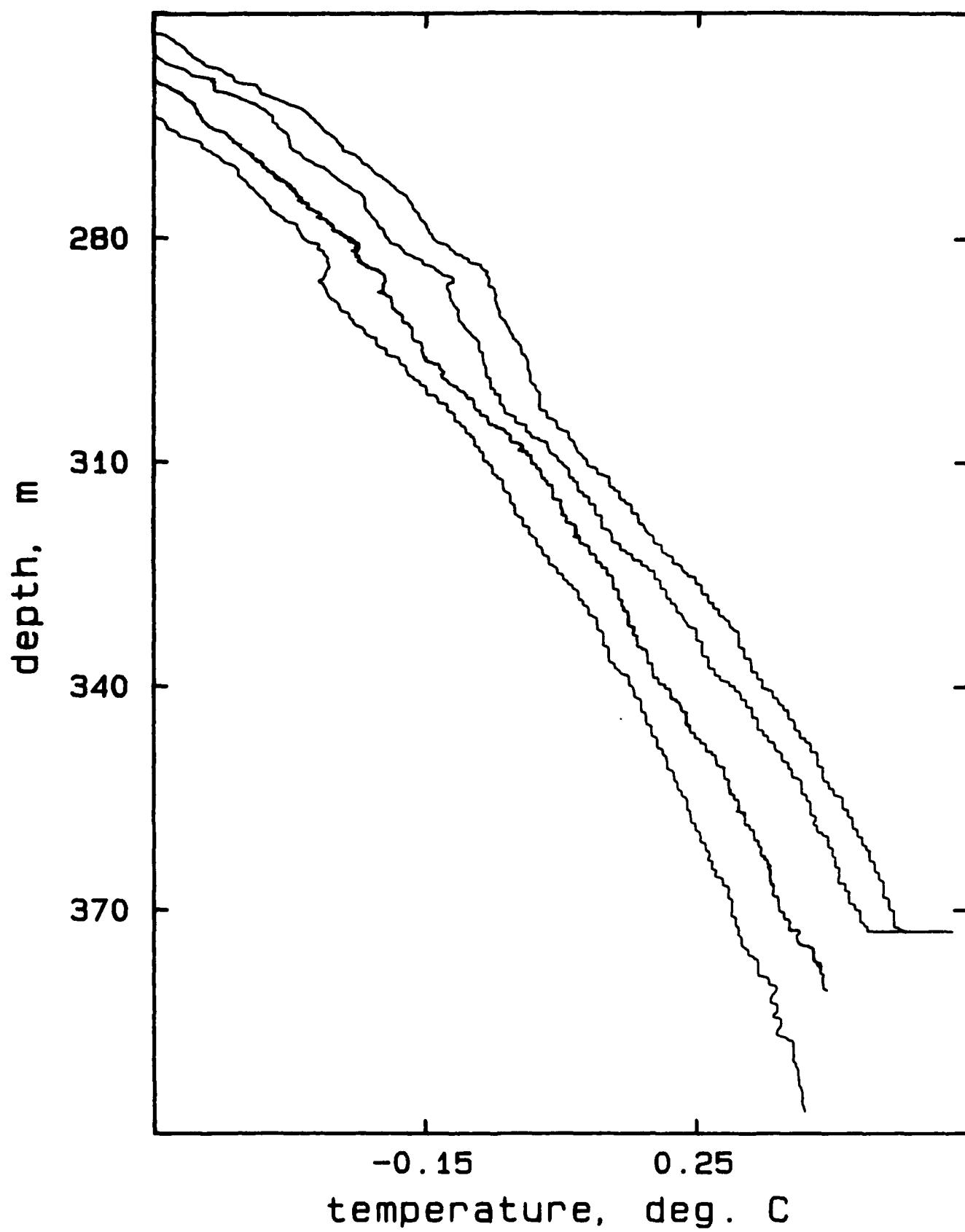
AR422J, drops 4-7



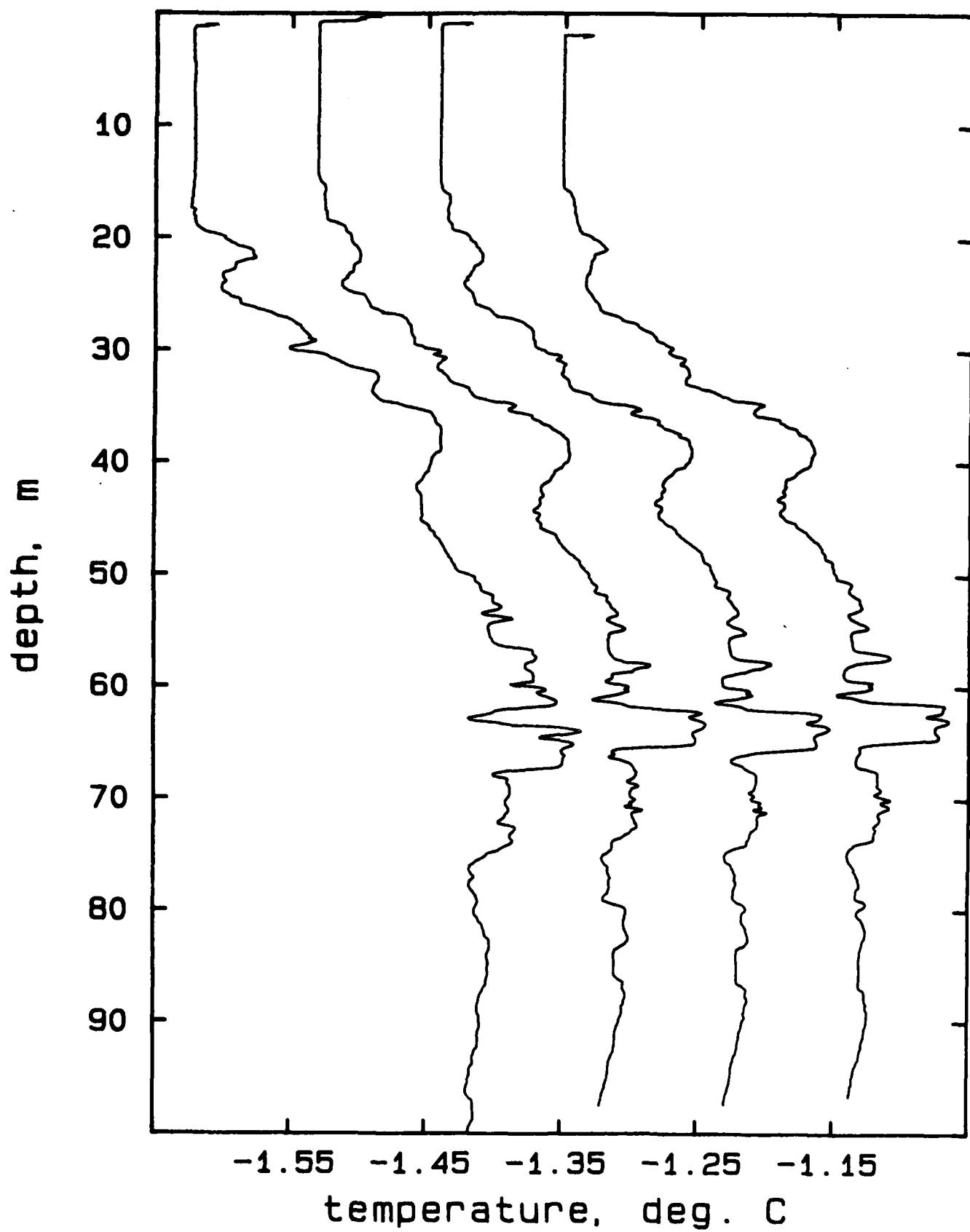
## AR423A, drops 2, 7, 8



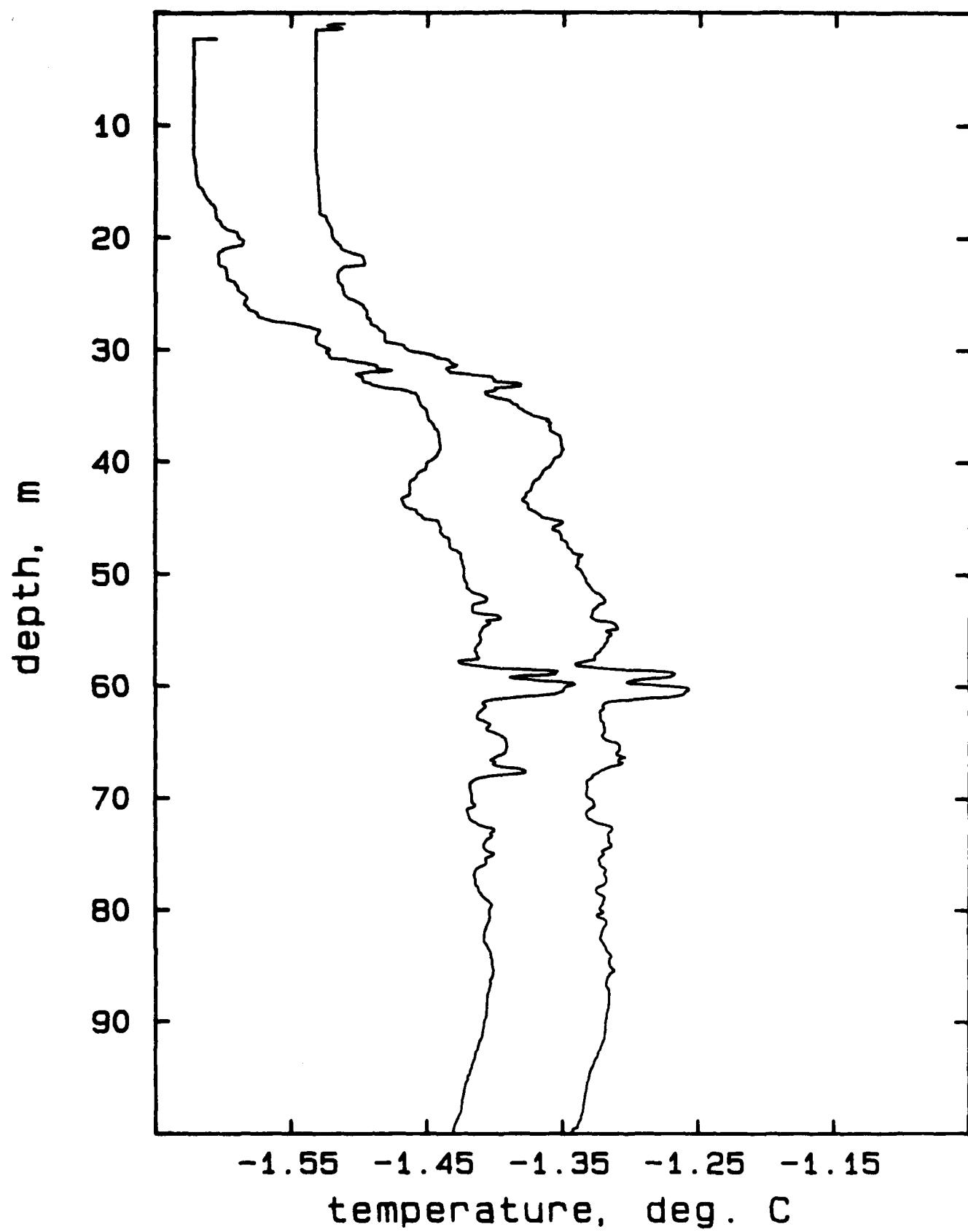
## AR423A, drops 2, 3, 7, 8



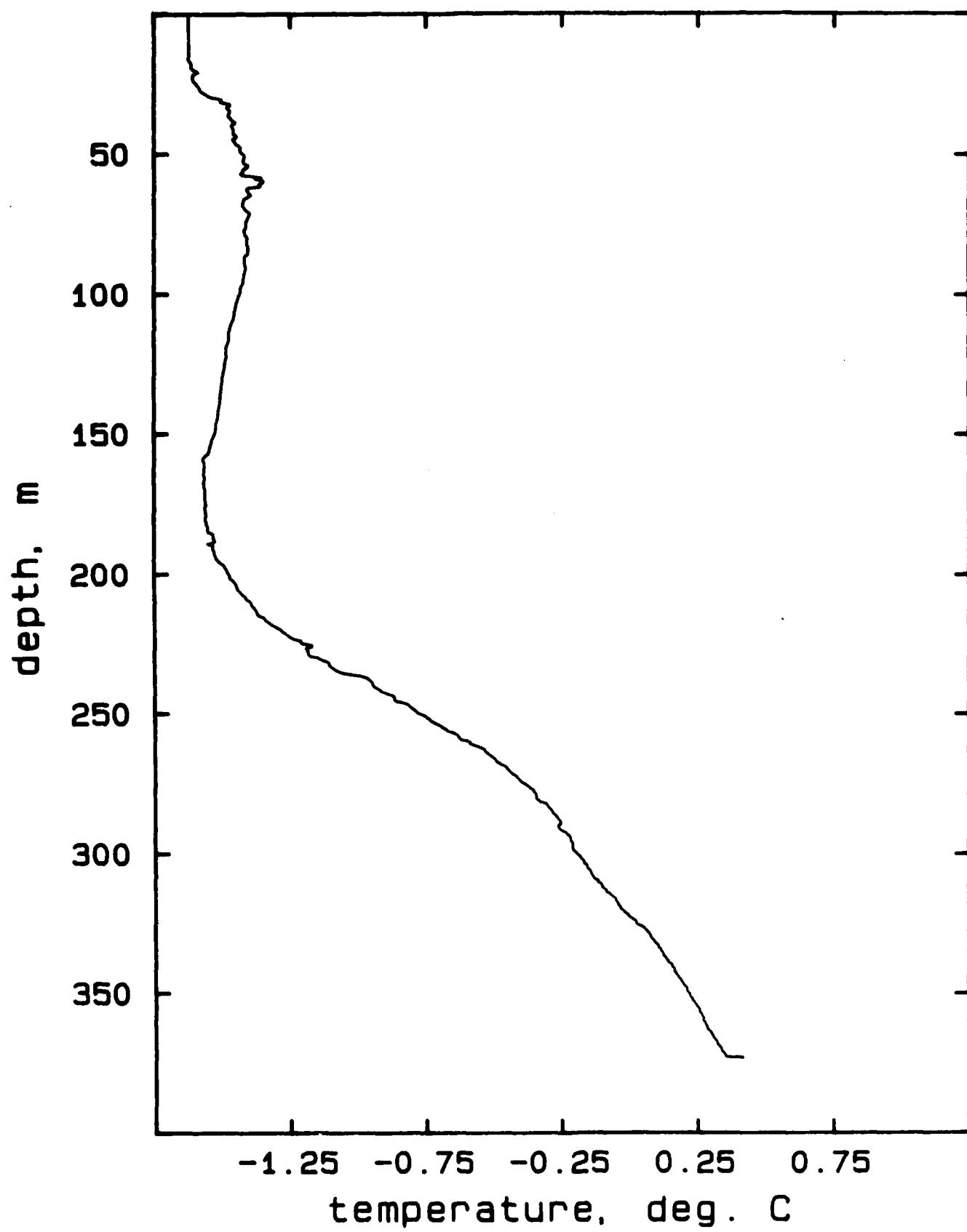
## AR423A, drops 2, 4-6



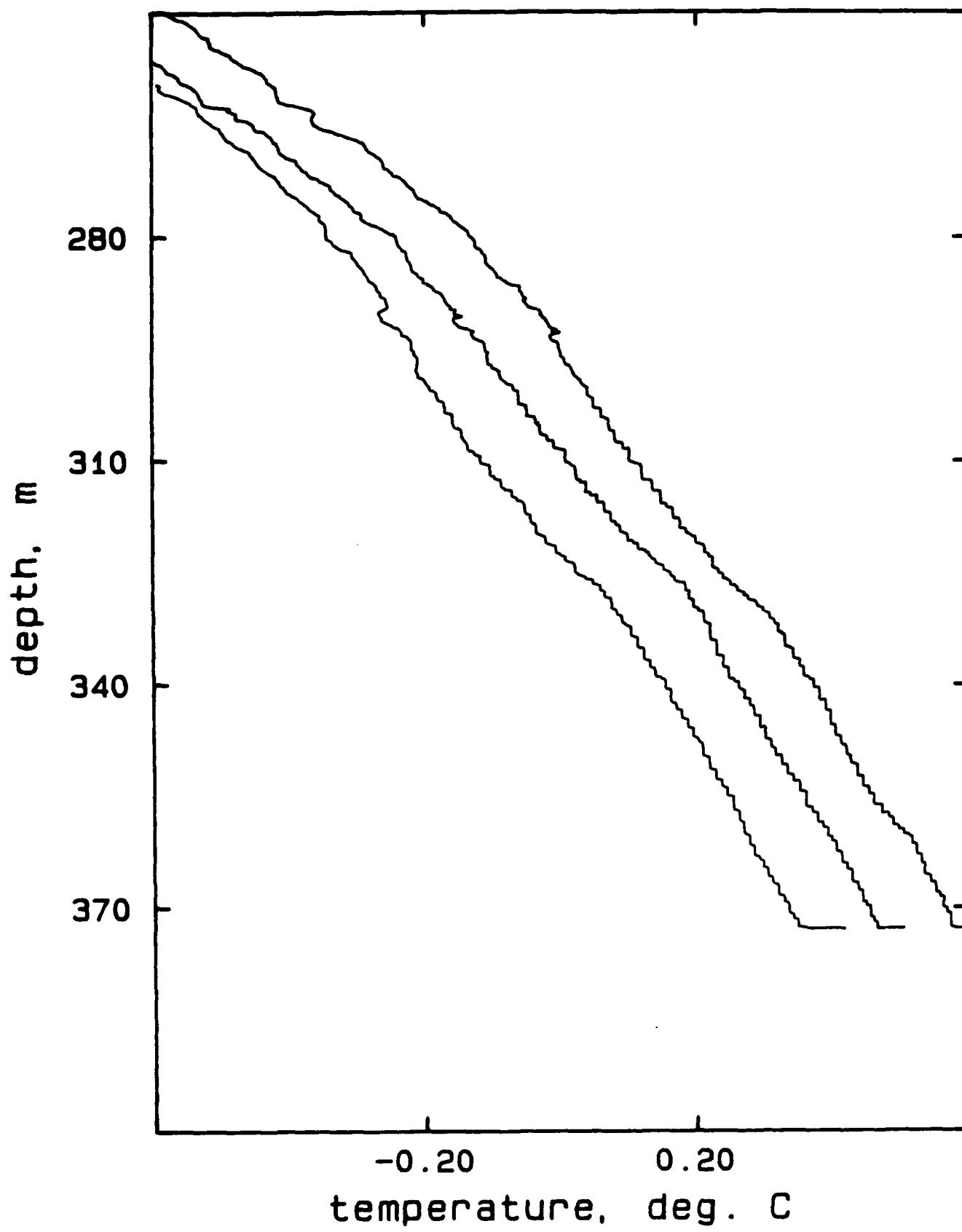
## AR423A, drops 7-8



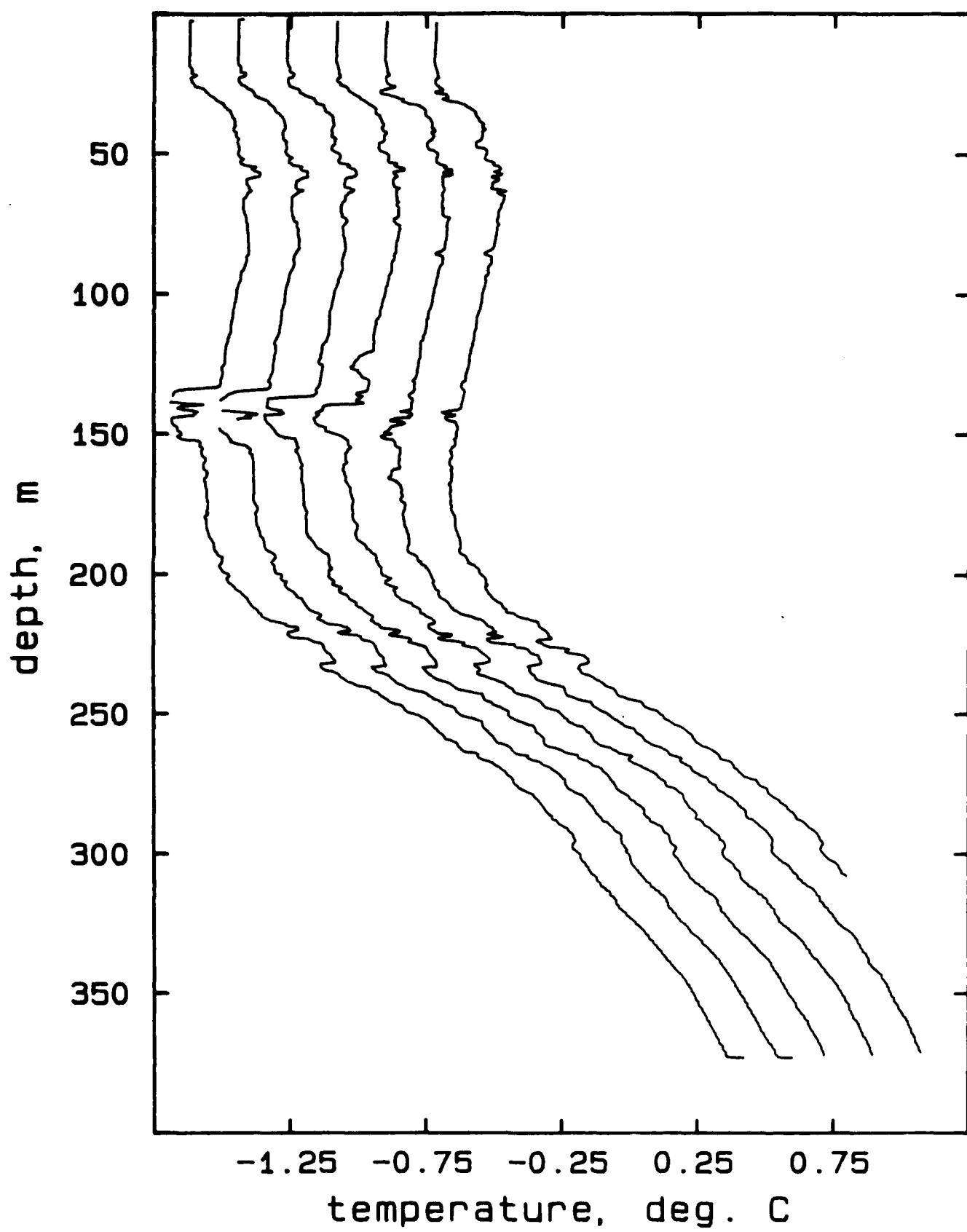
## AR423B, drop 1



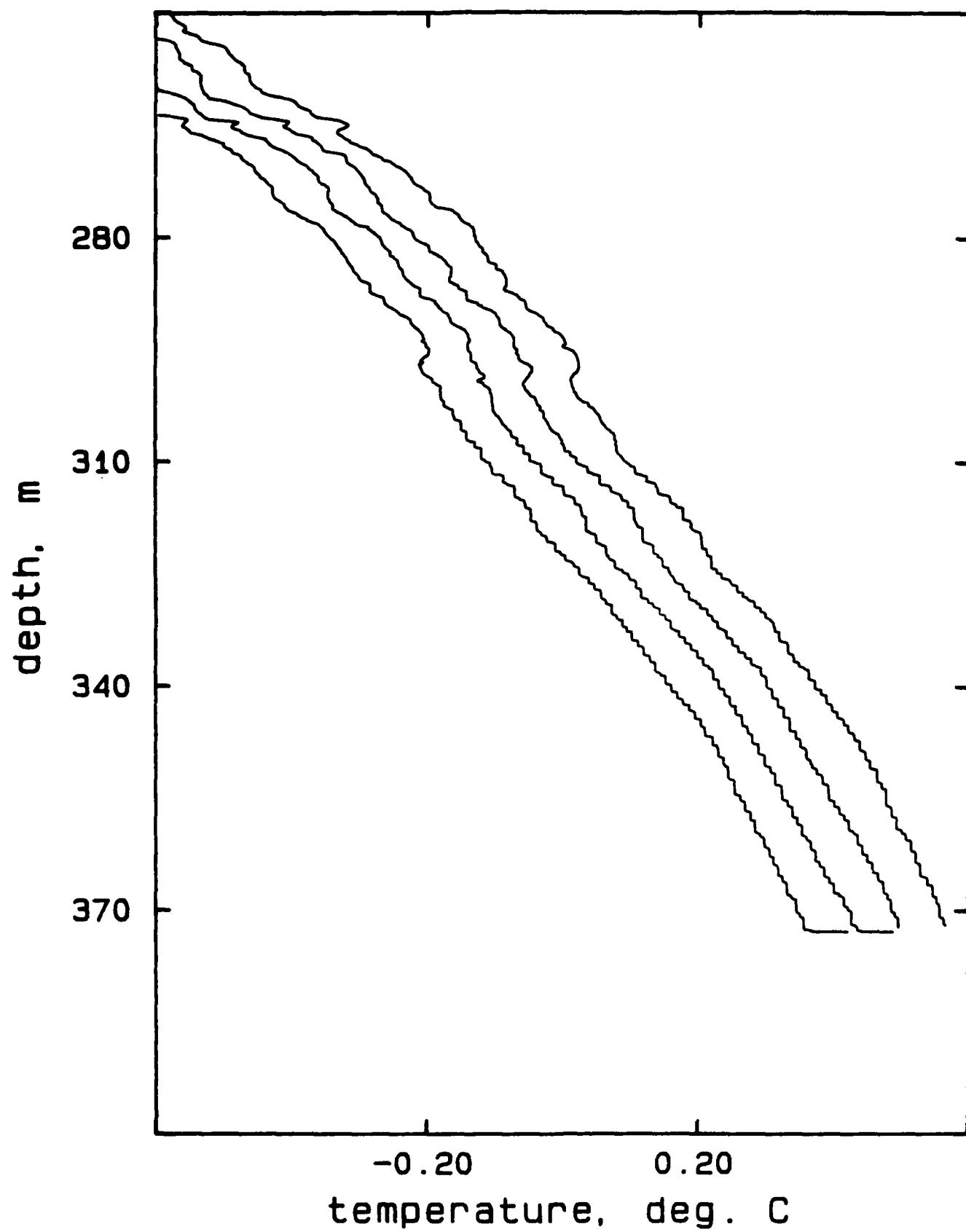
## AR423B, drops 1-3



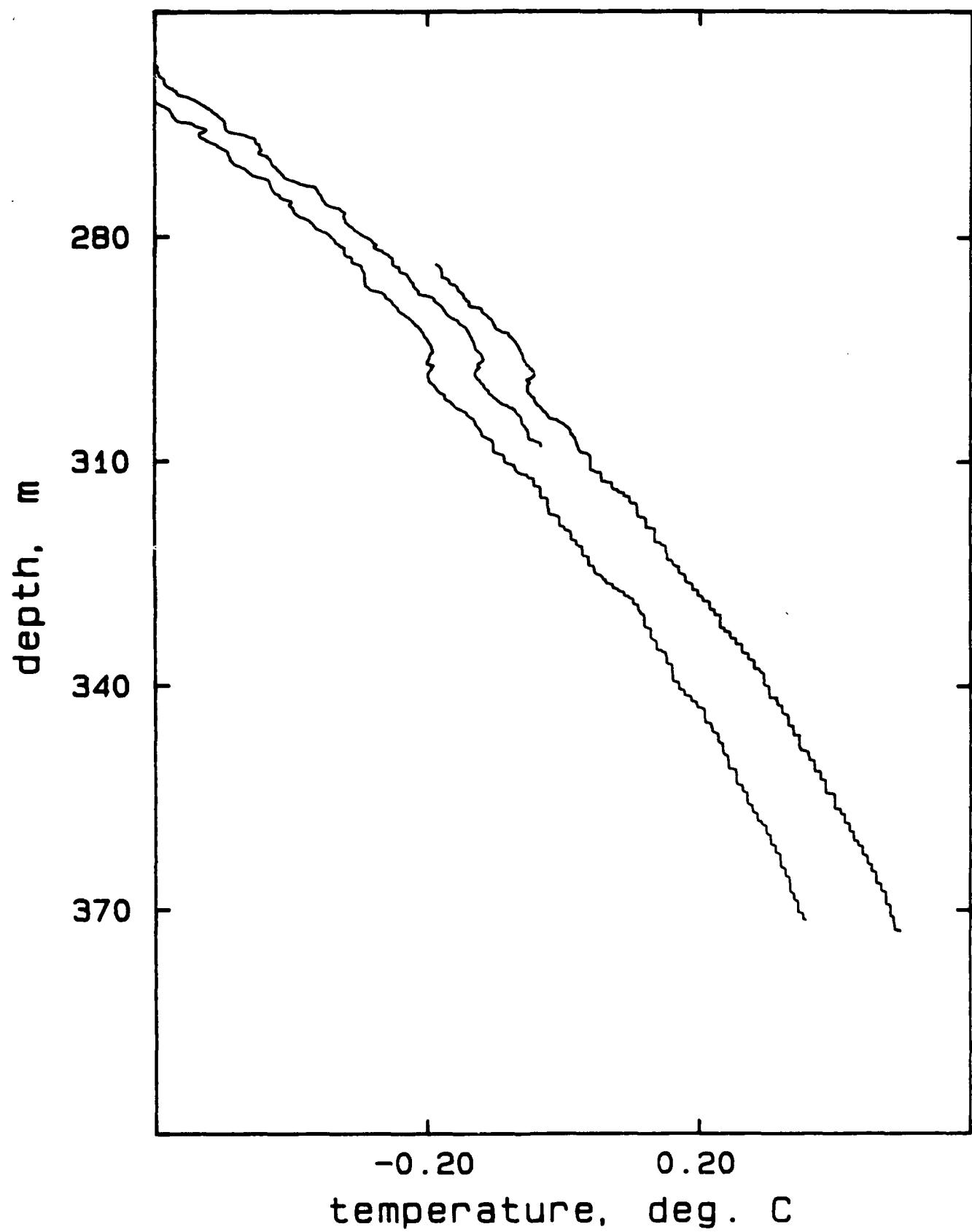
## AR423C, drops 1-6



## AR423C, drops 1-4

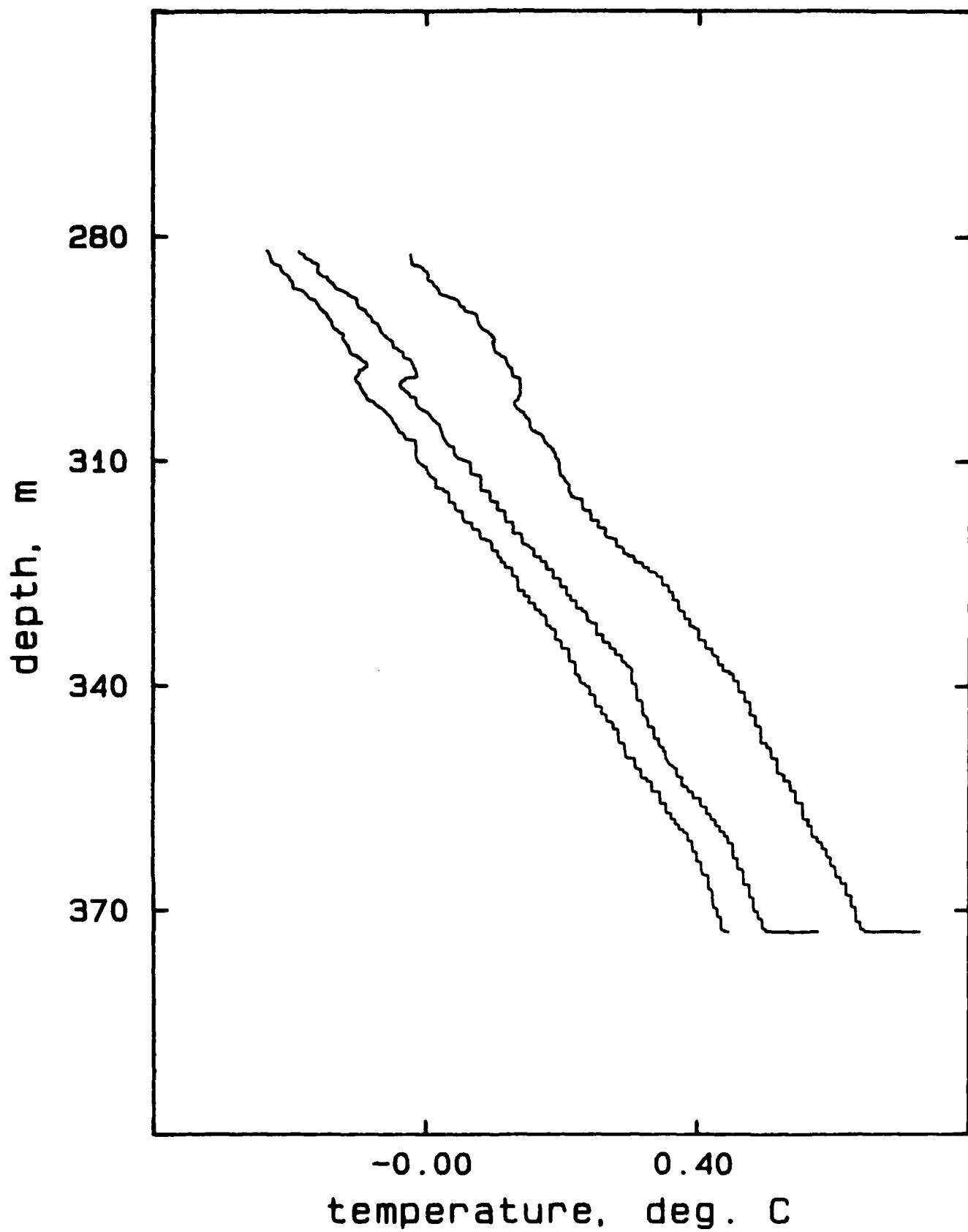


## AR423C, drops 5-7

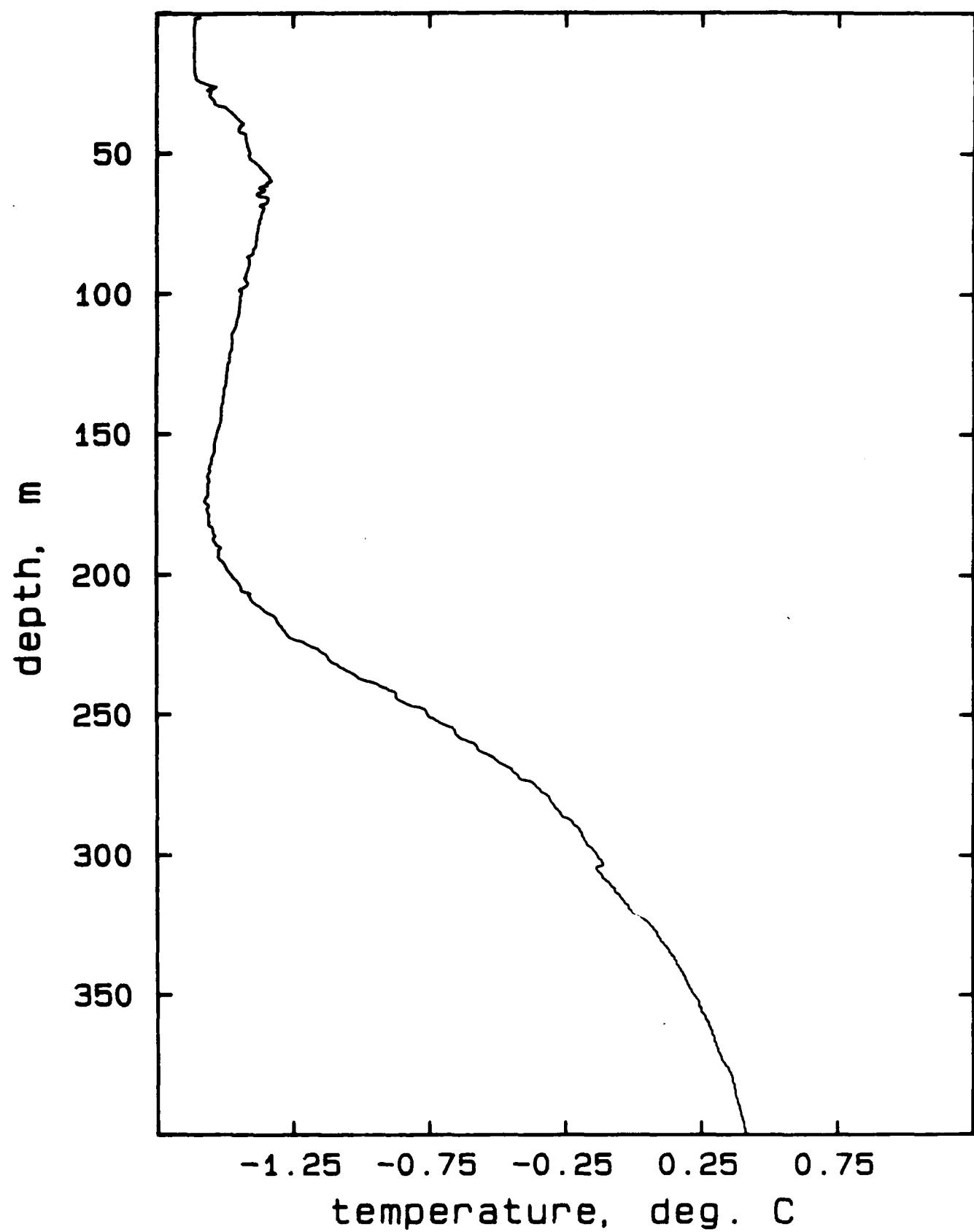


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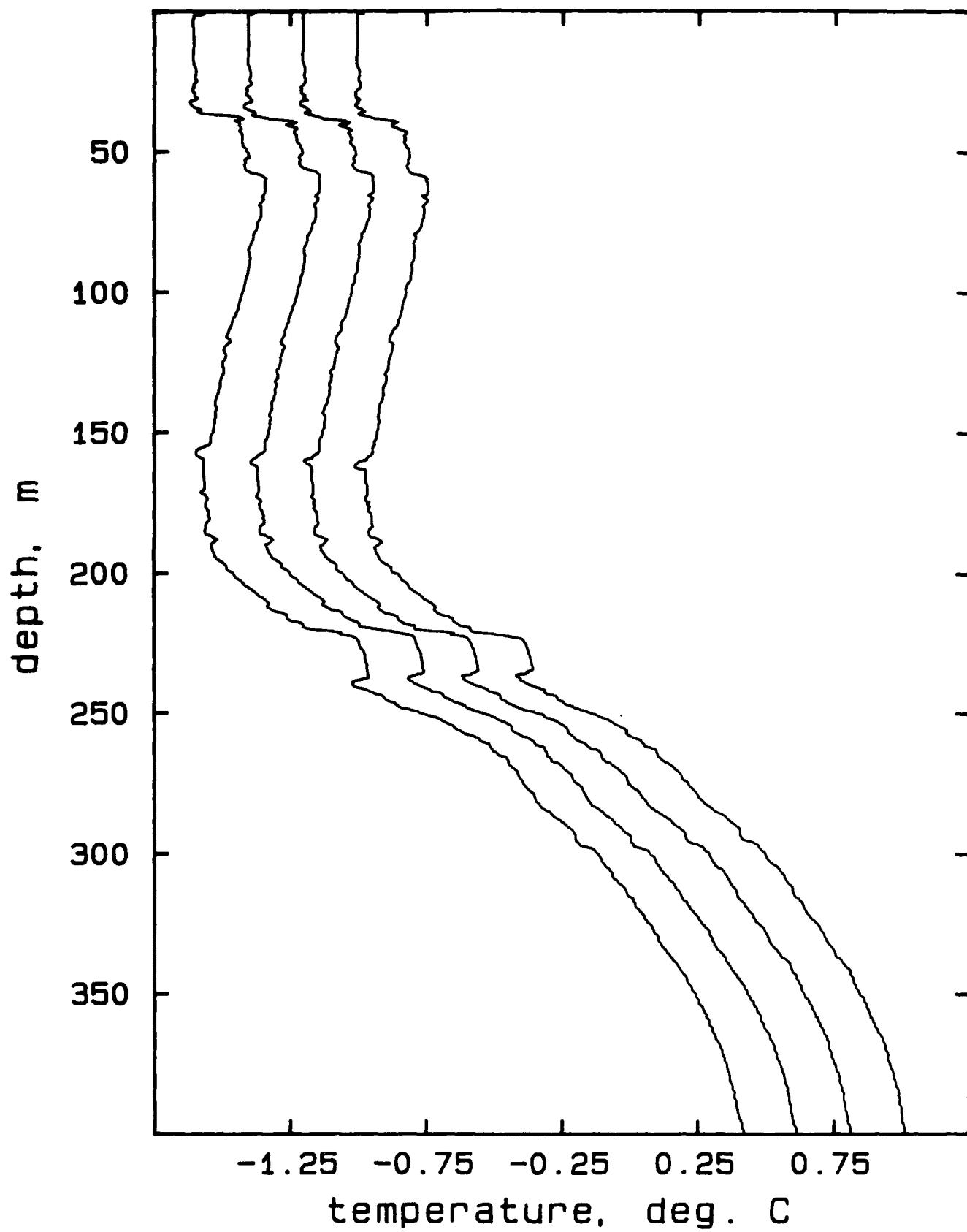
AR423D, drops 1-3



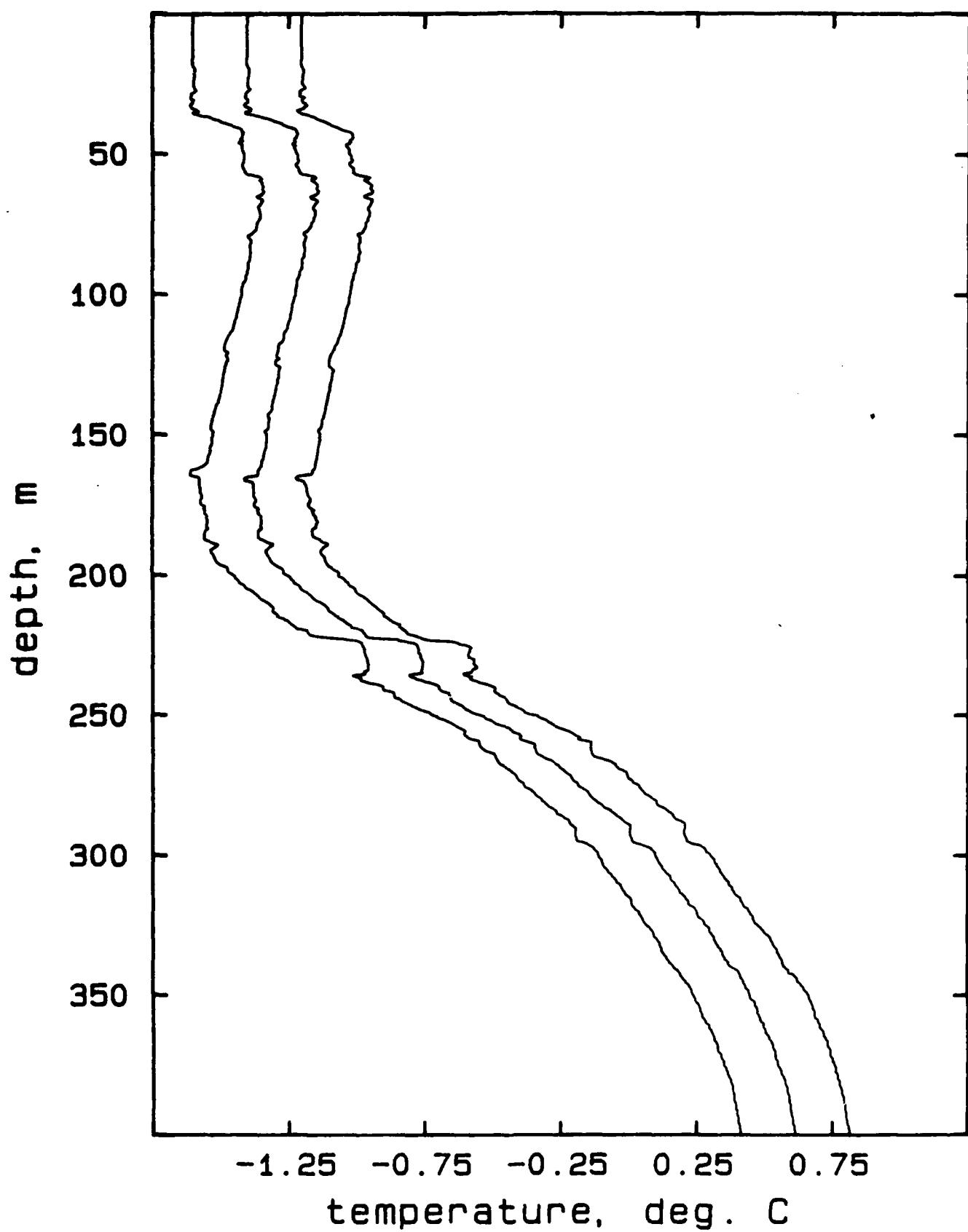
## AR423E, drop 3



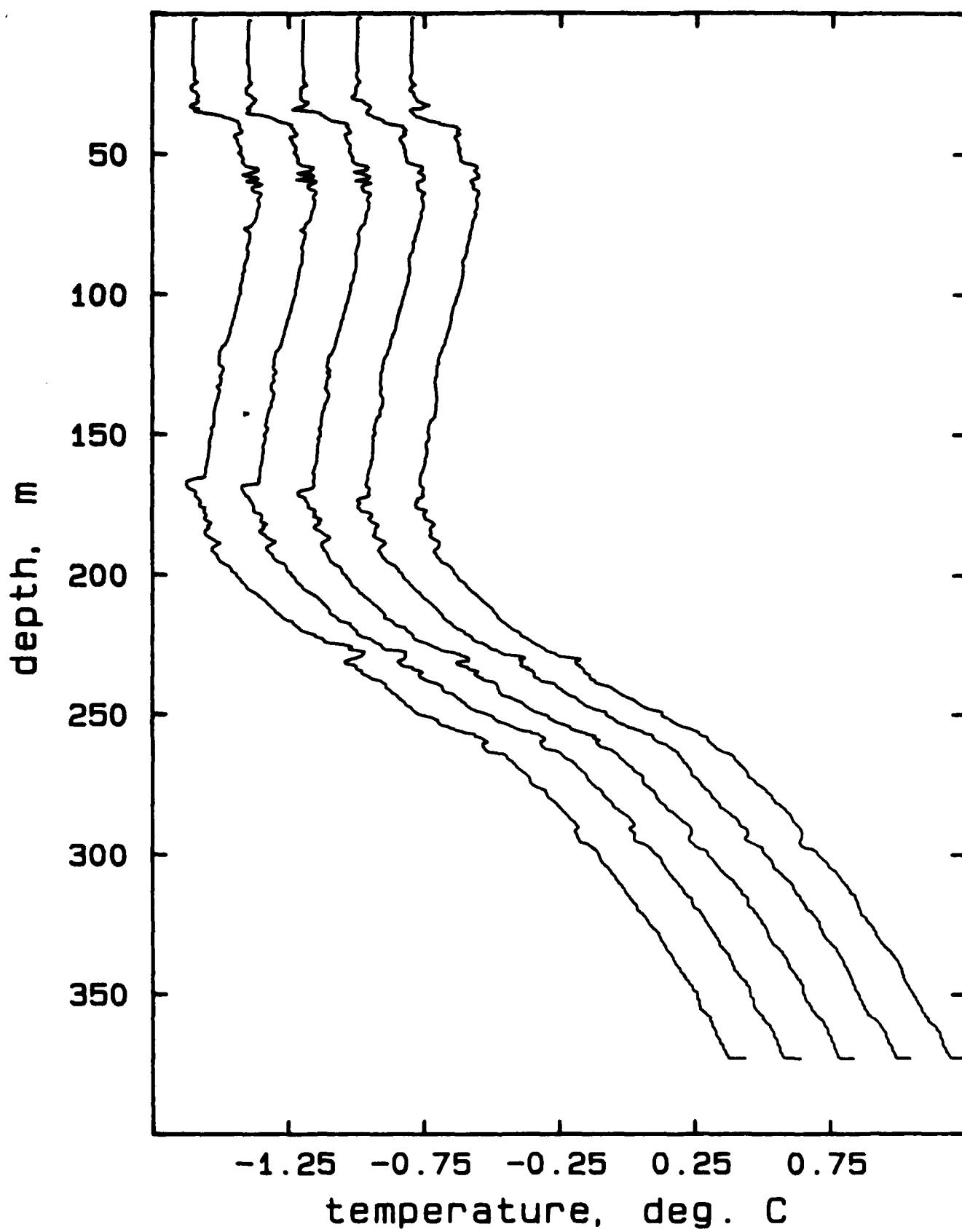
## AR424A, drops 1-4



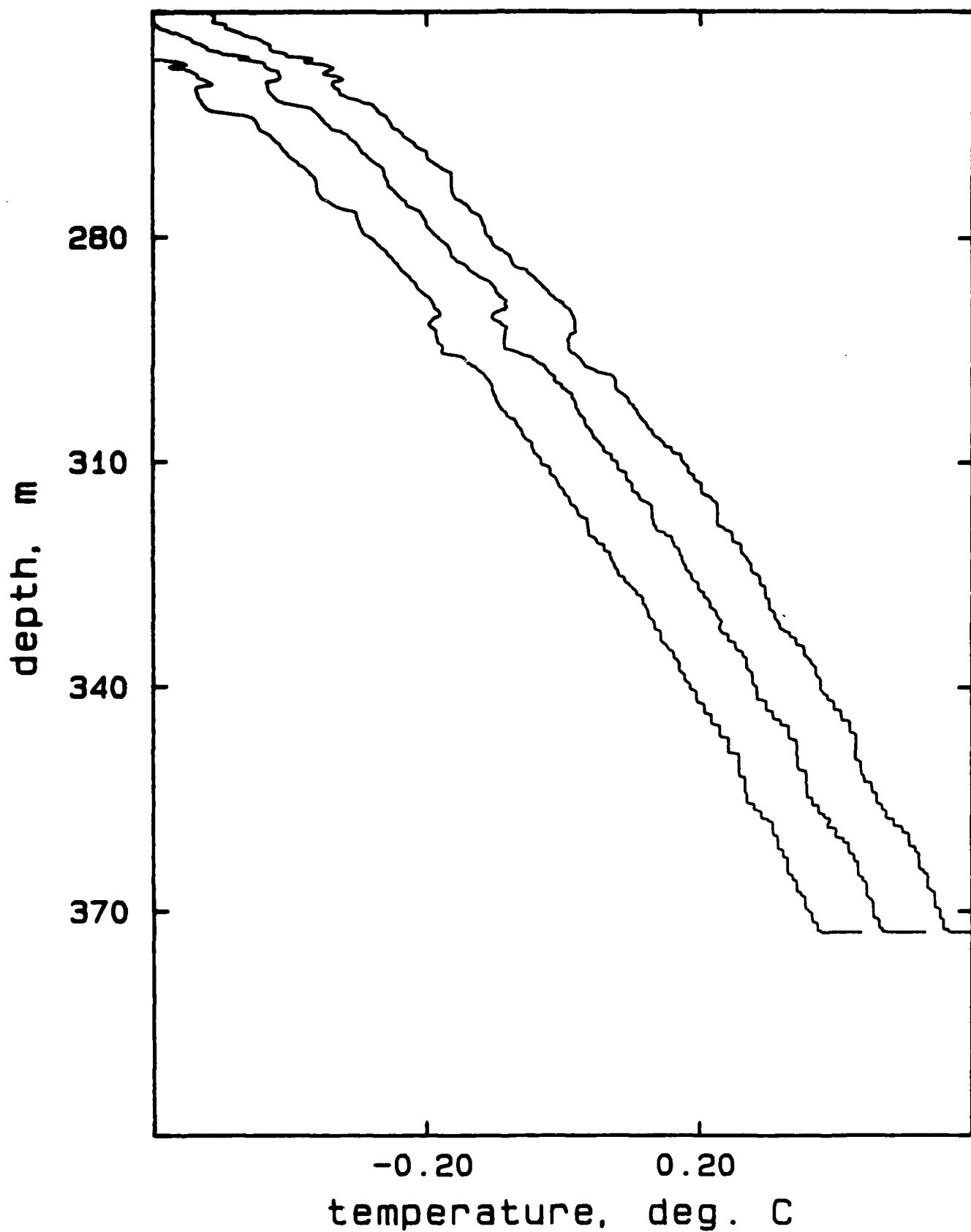
## AR424A, drops 5-7



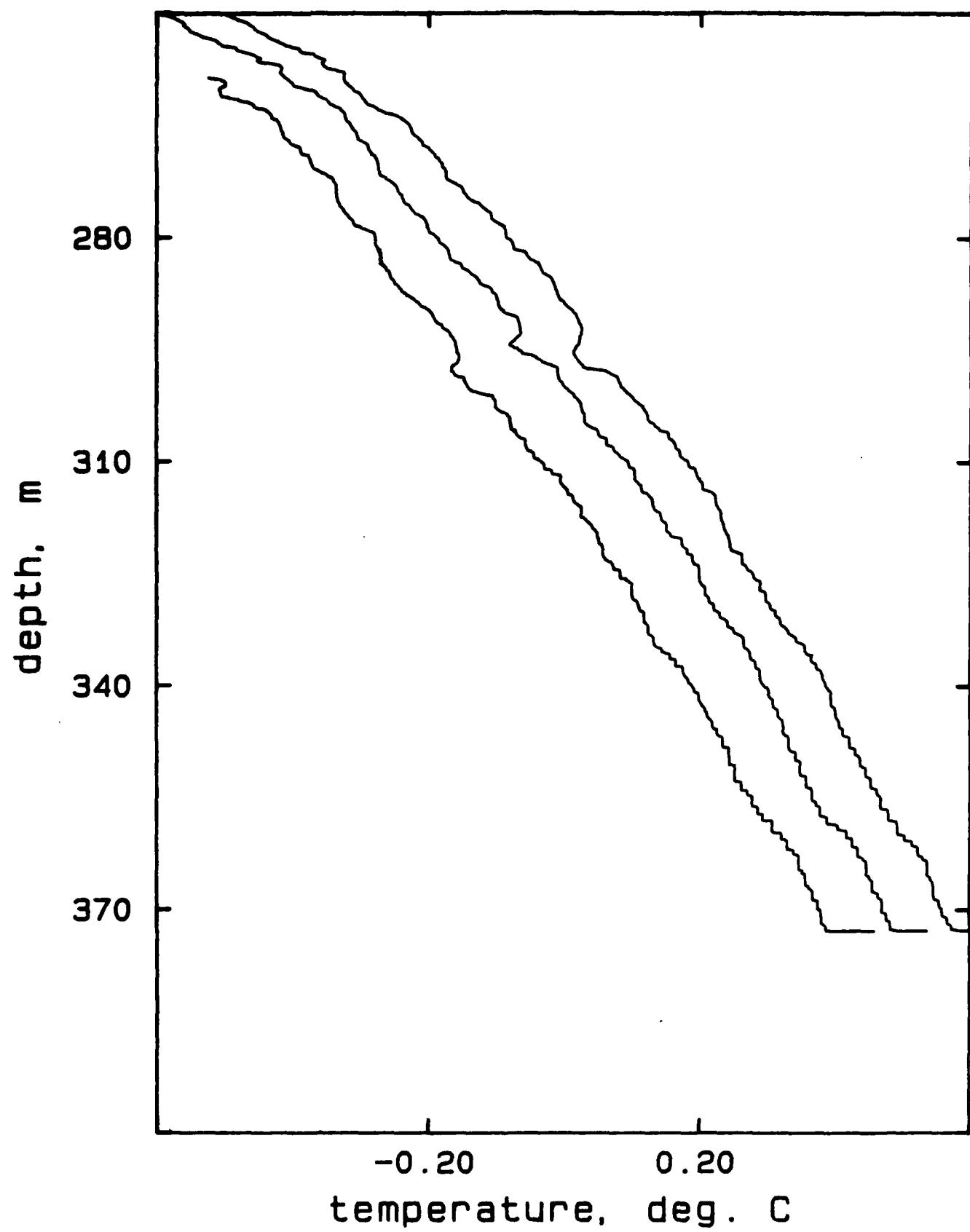
## AR424B, drops 1-3, 5, 6



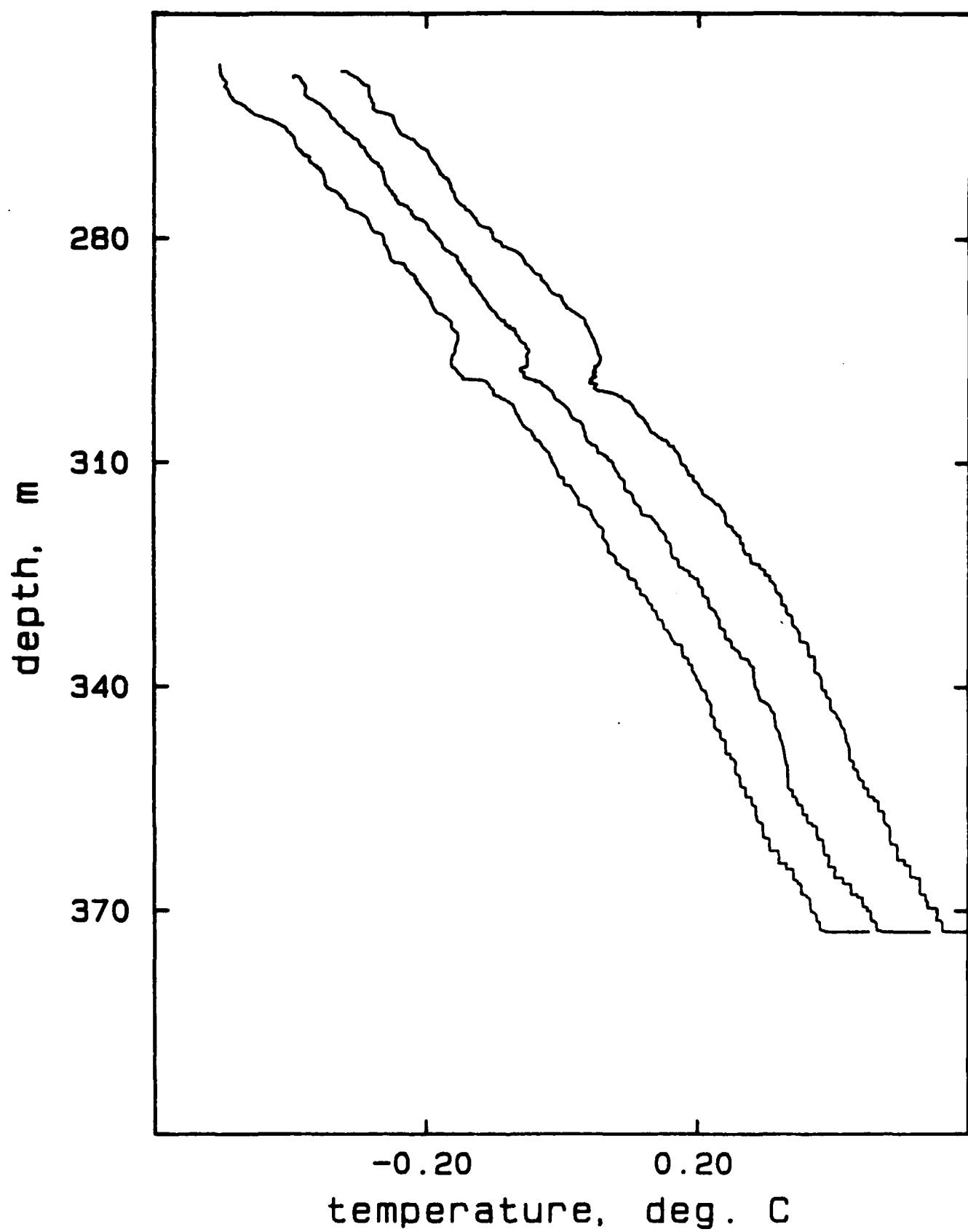
## AR424B, drops 1-3



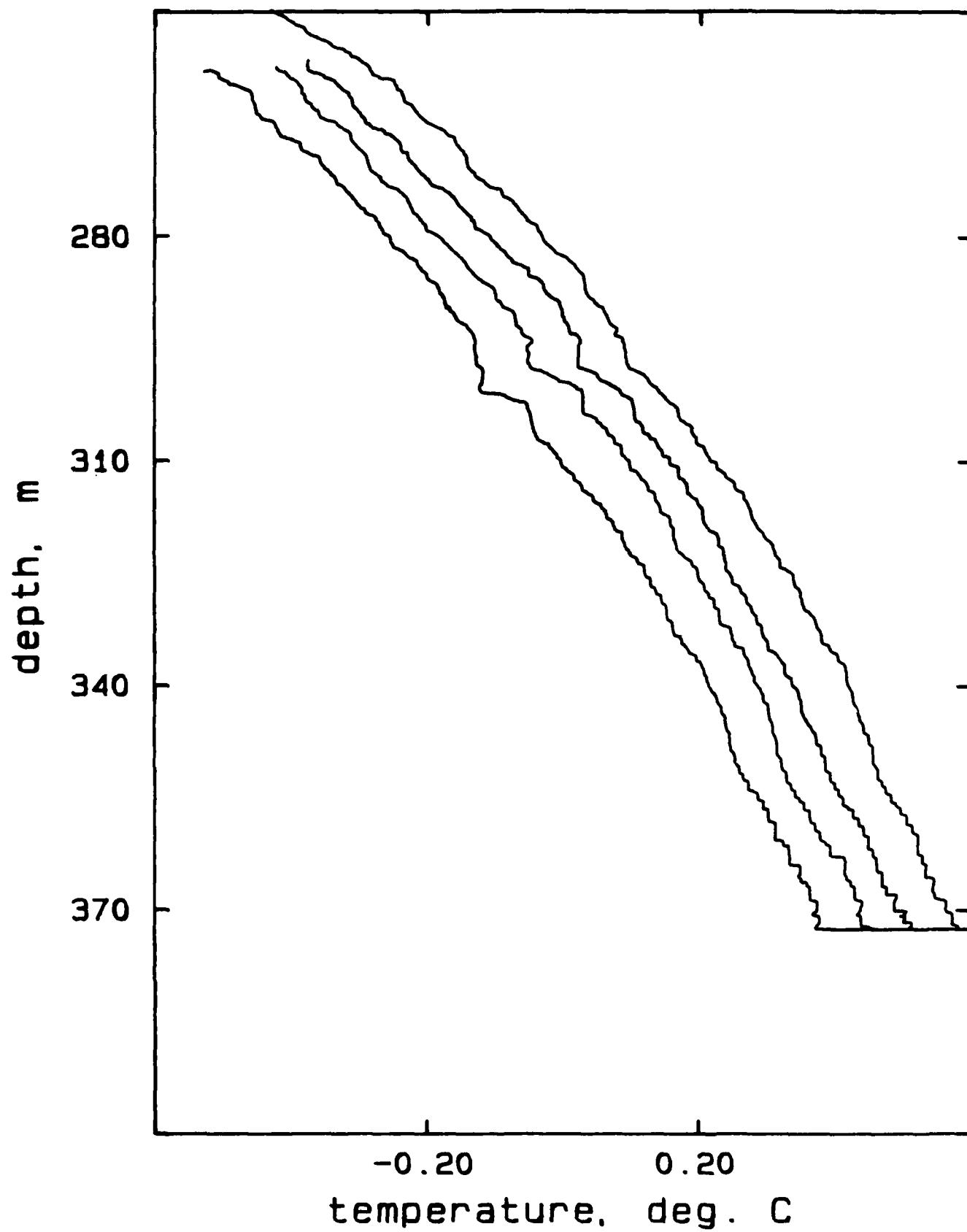
## AR424B, drops 4-6



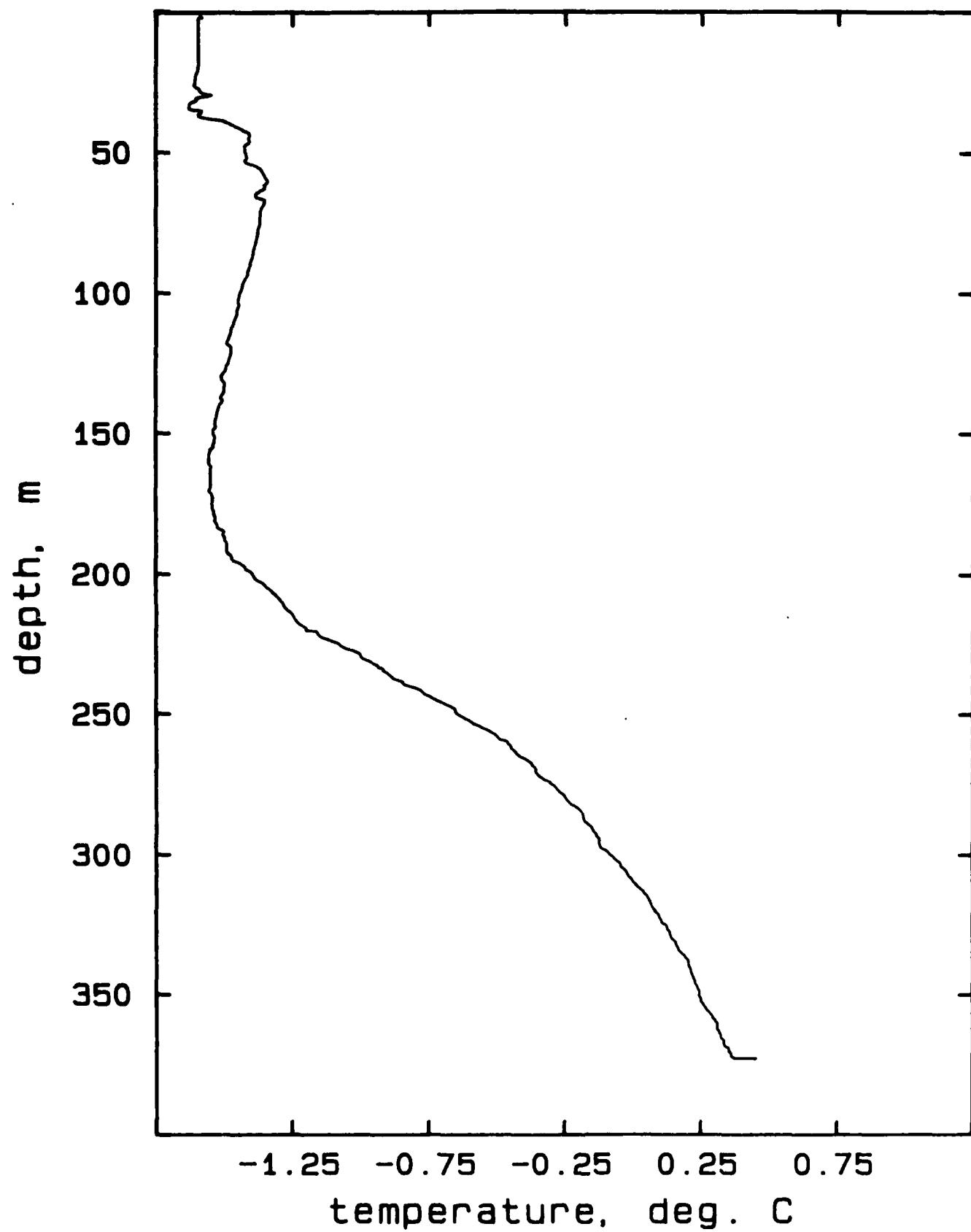
## AR424C, drops 1-3



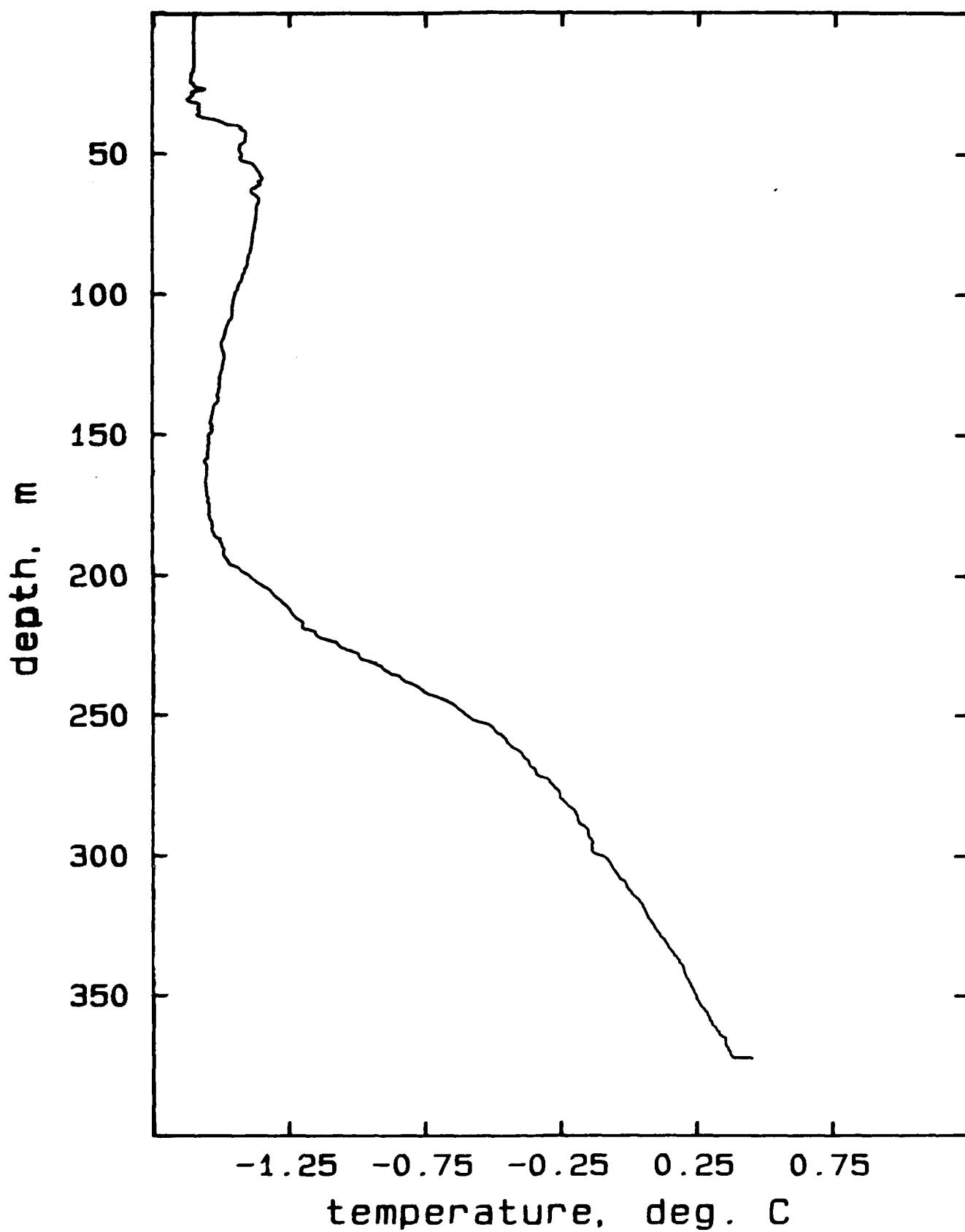
## AR424D, drops 1-4



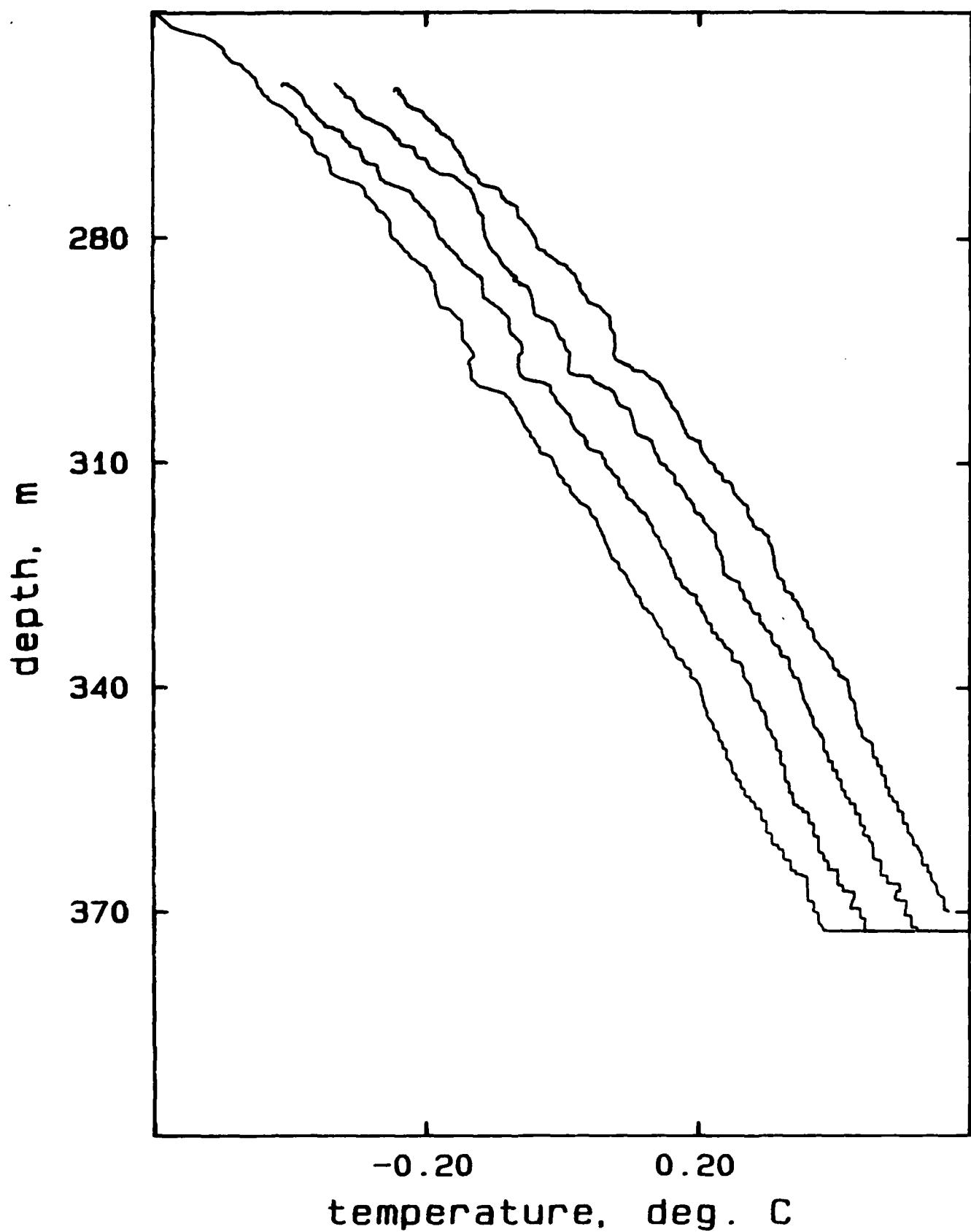
## AR424D, drop 4



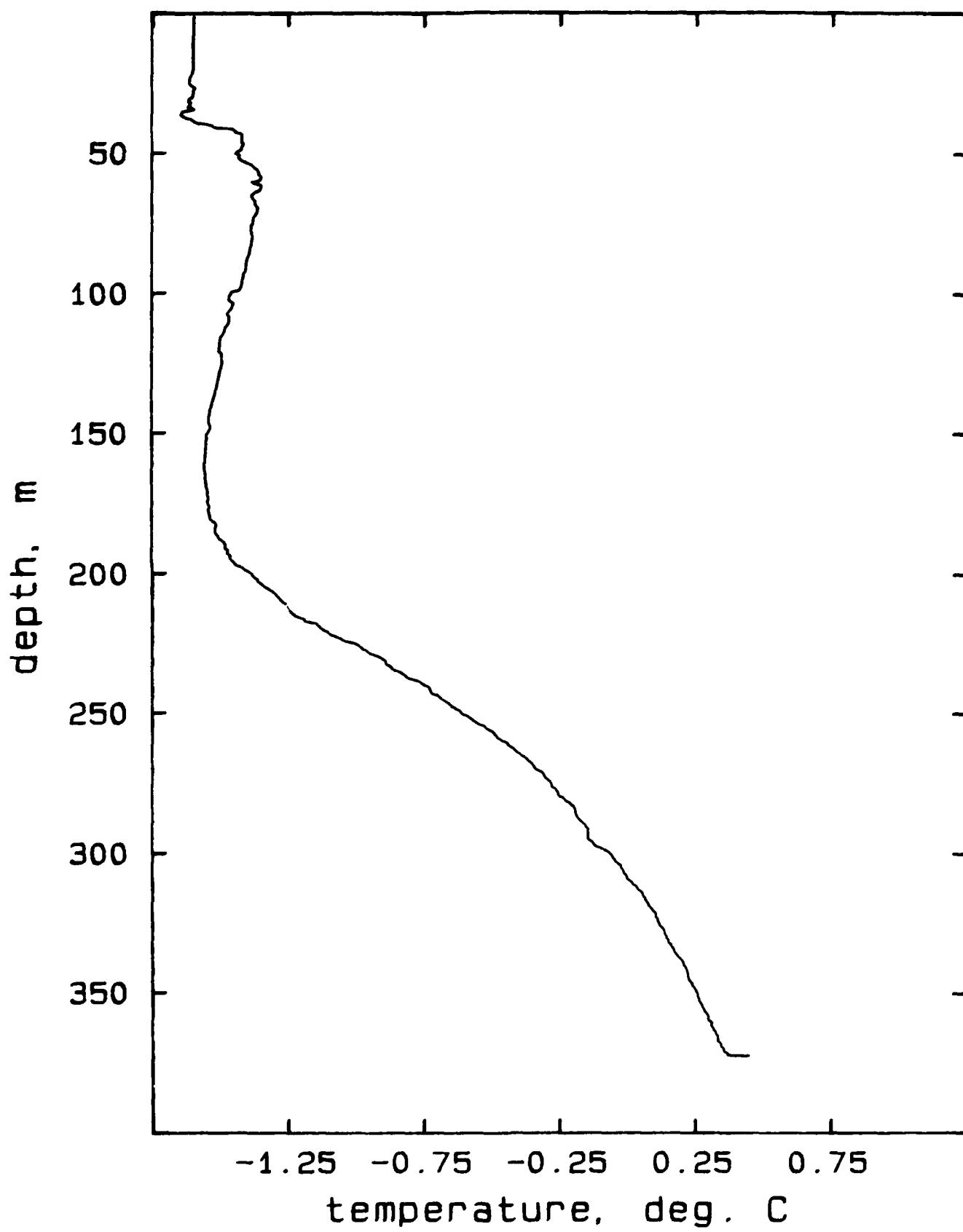
## AR424E, drop 1



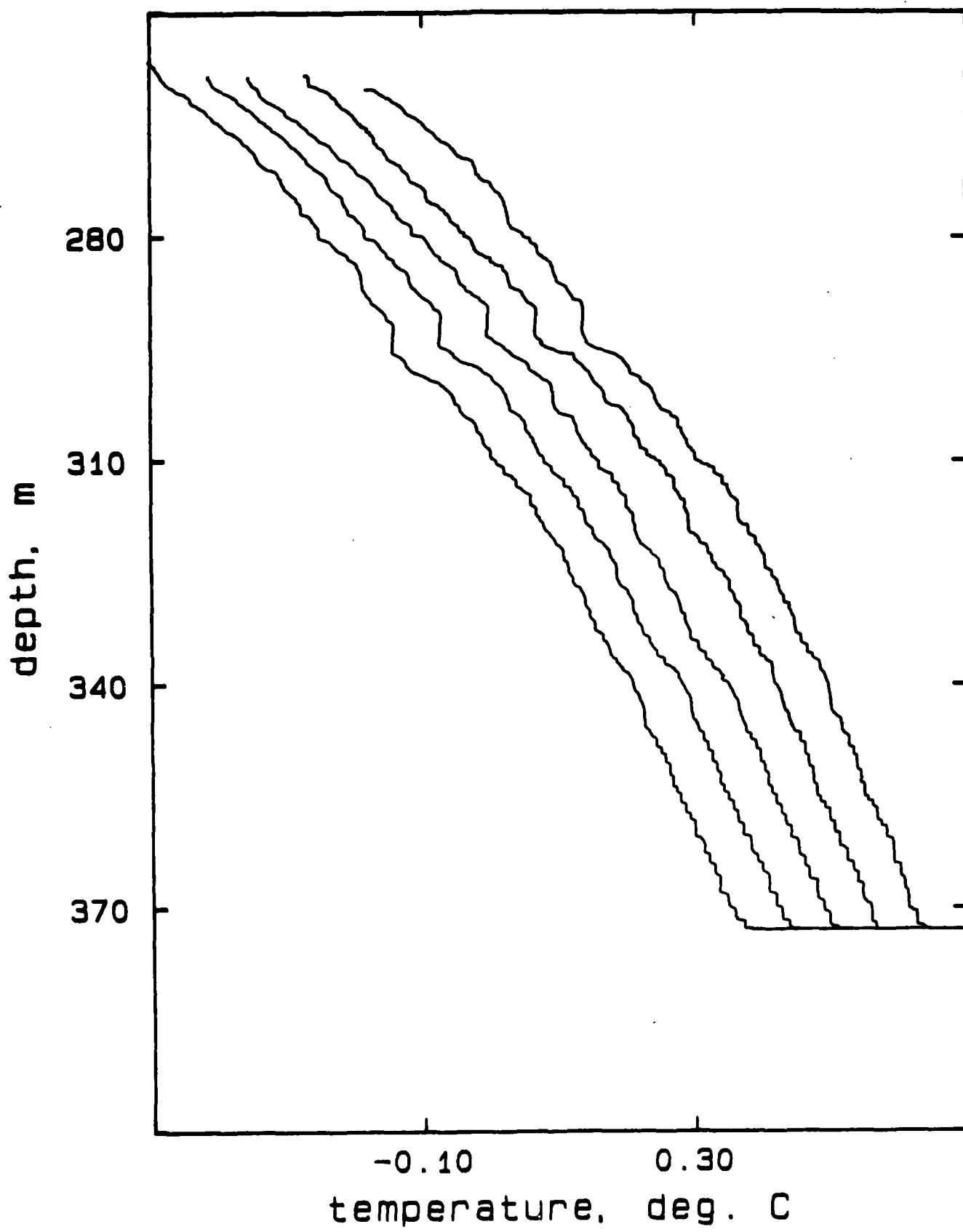
AR424E, drops 1-4



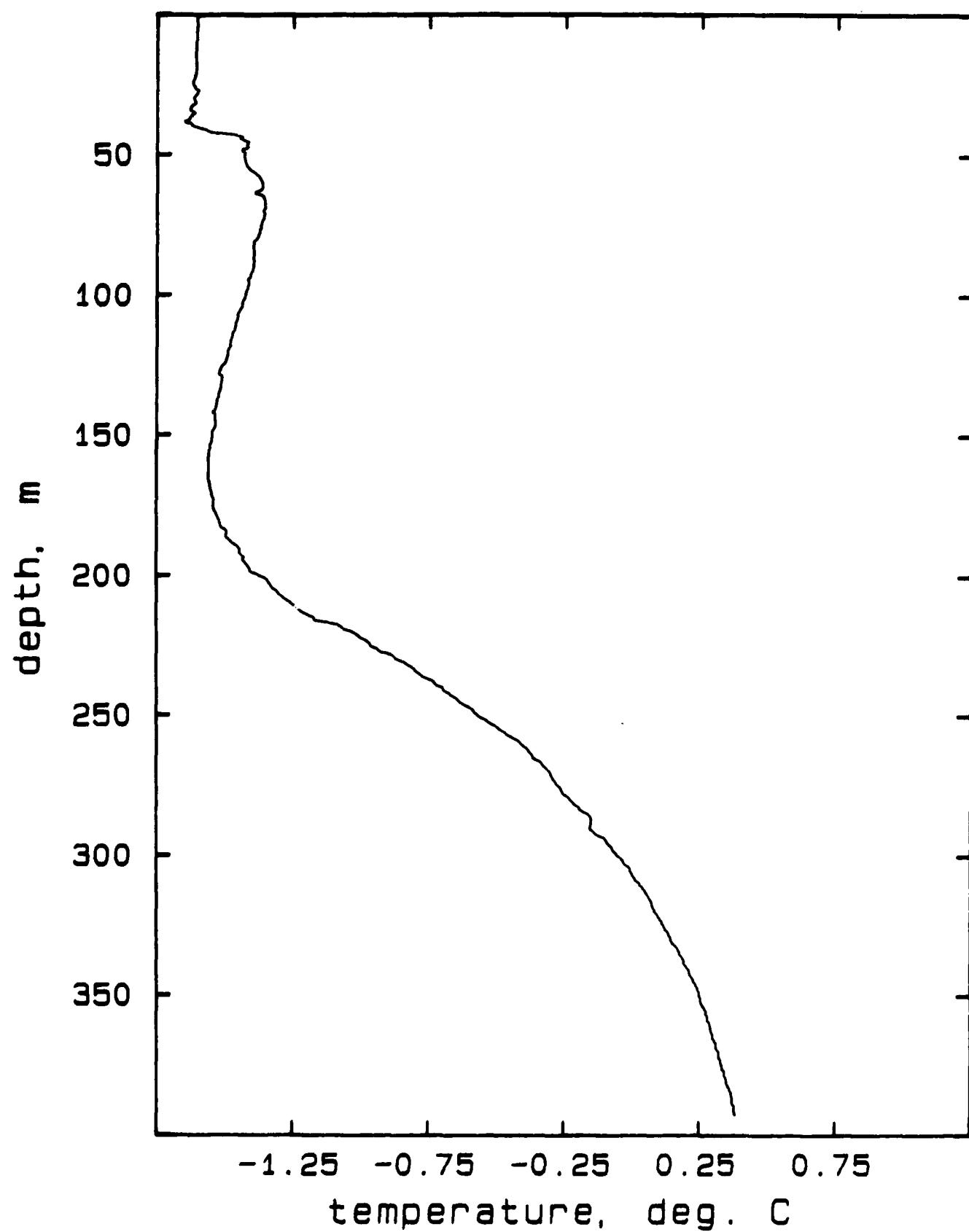
## AR424F, drop 1



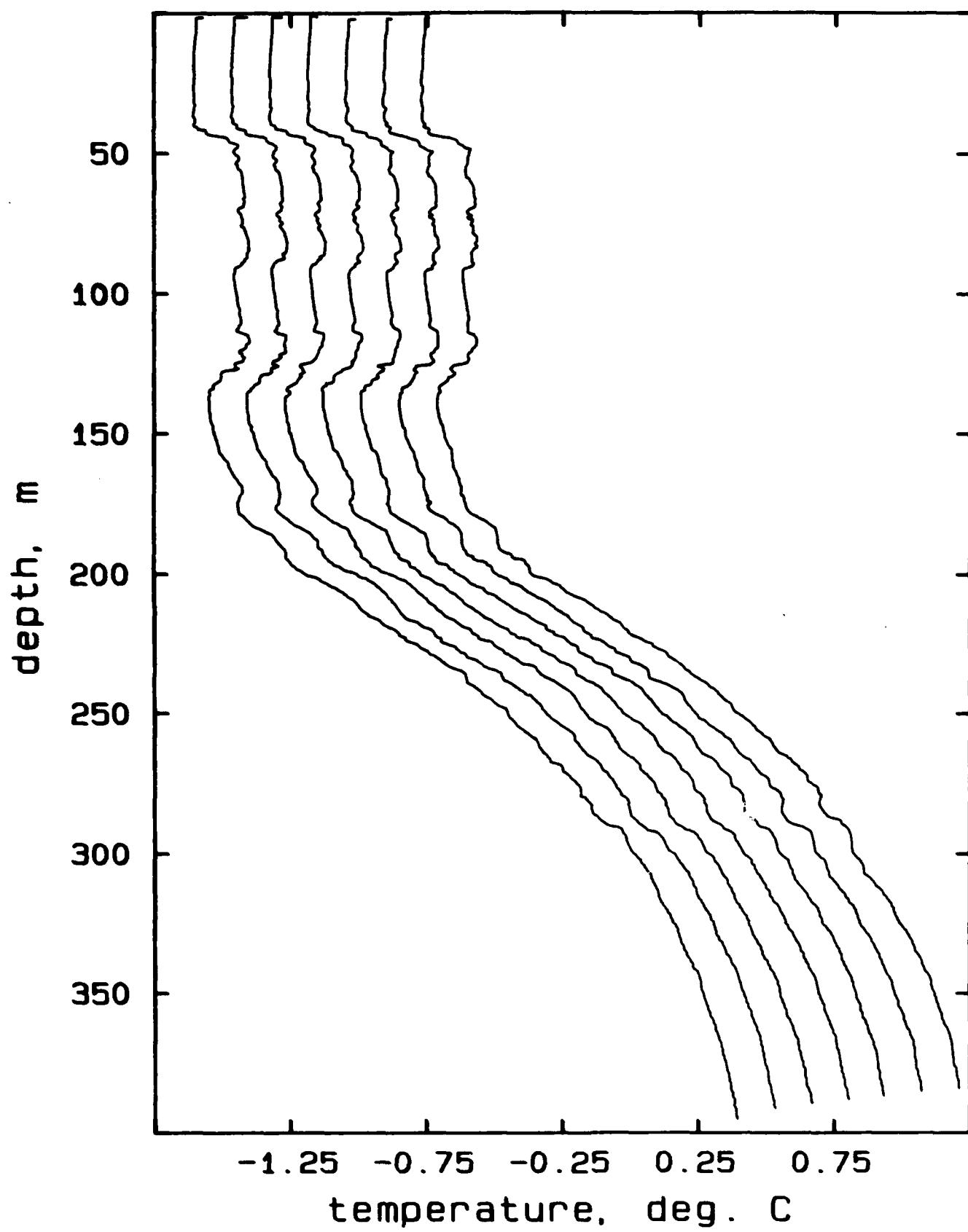
## AR424F, drops 1-5



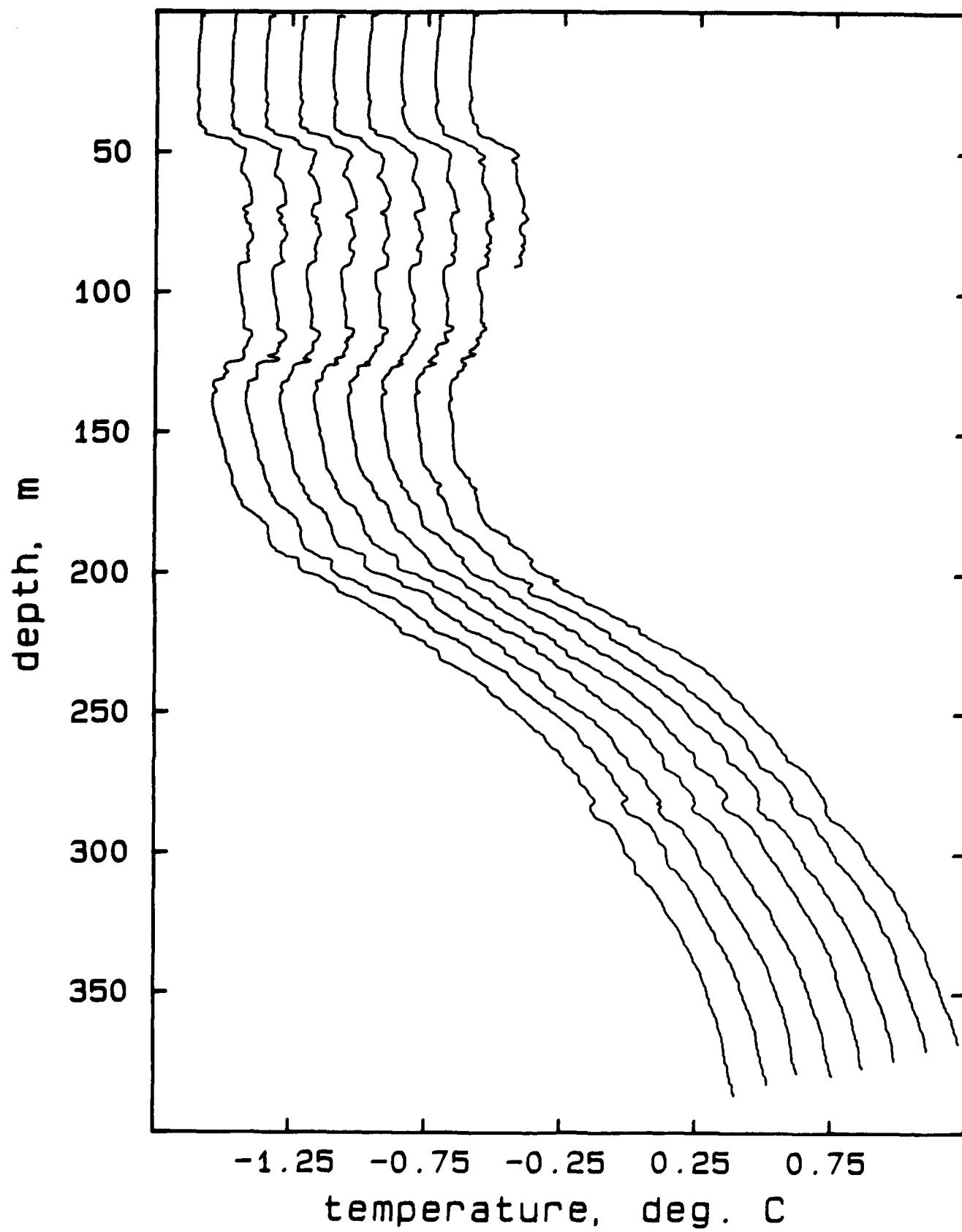
## AR424G, drop 1



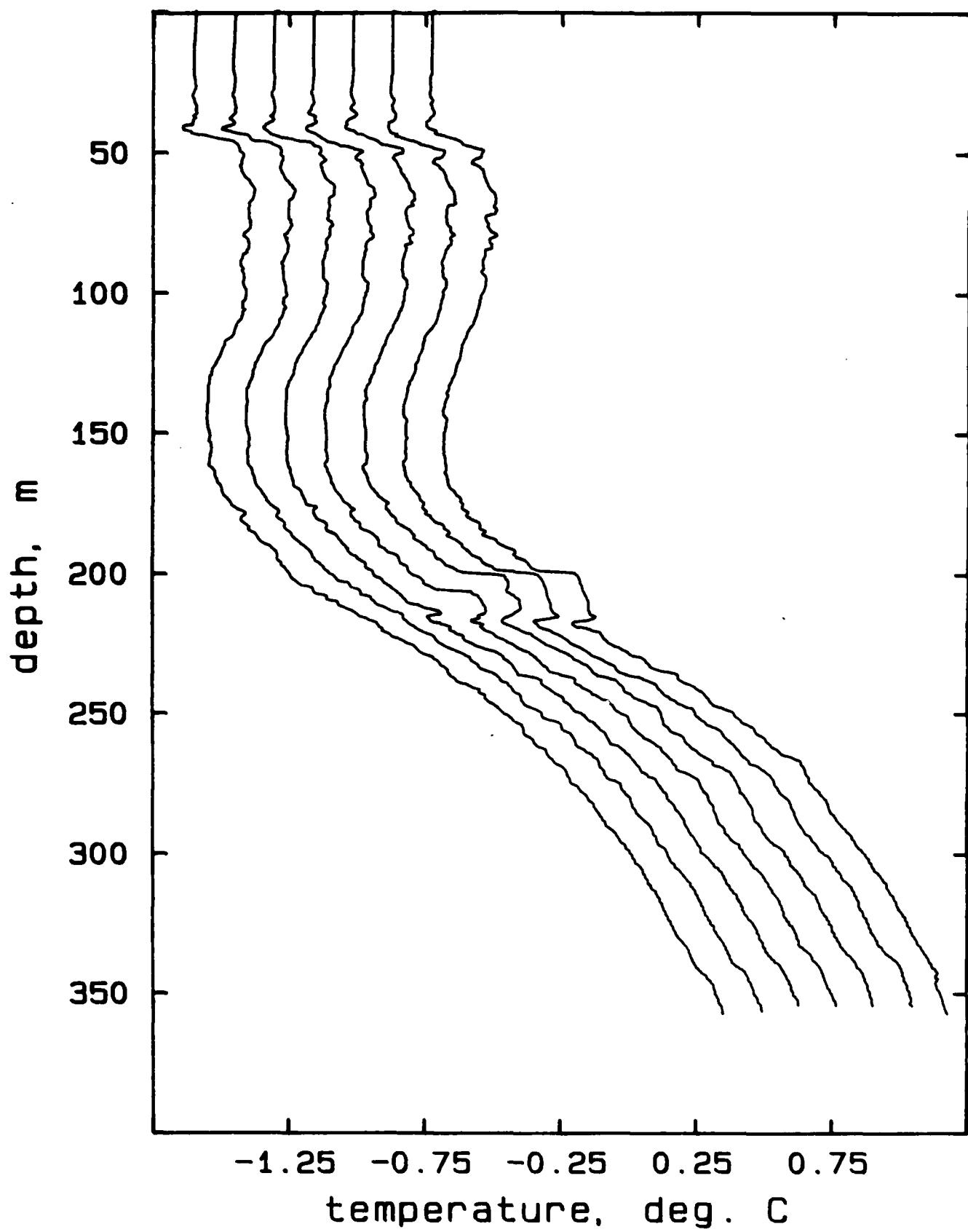
## AR425A, drops 1-7



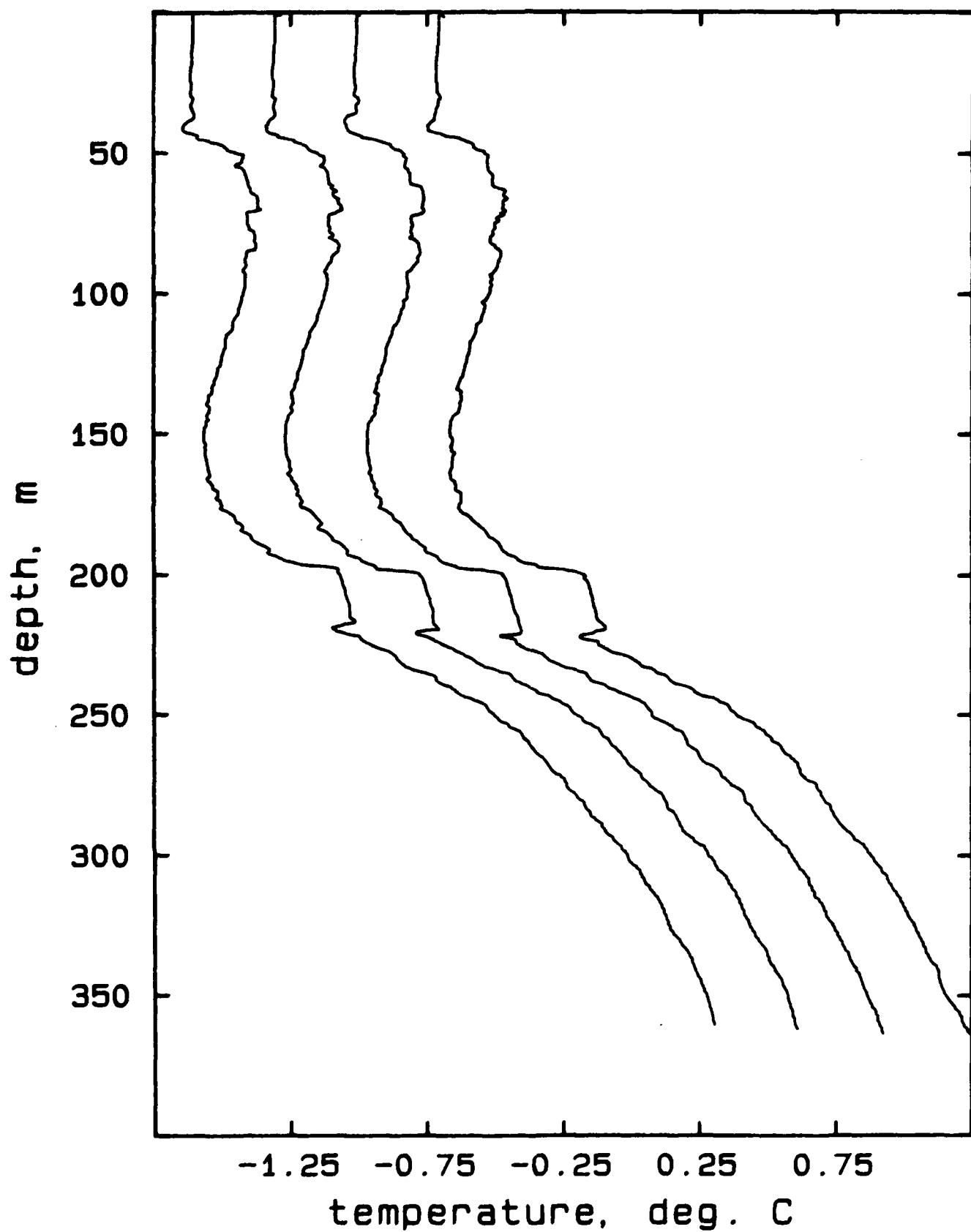
## AR425B, drops 1-9



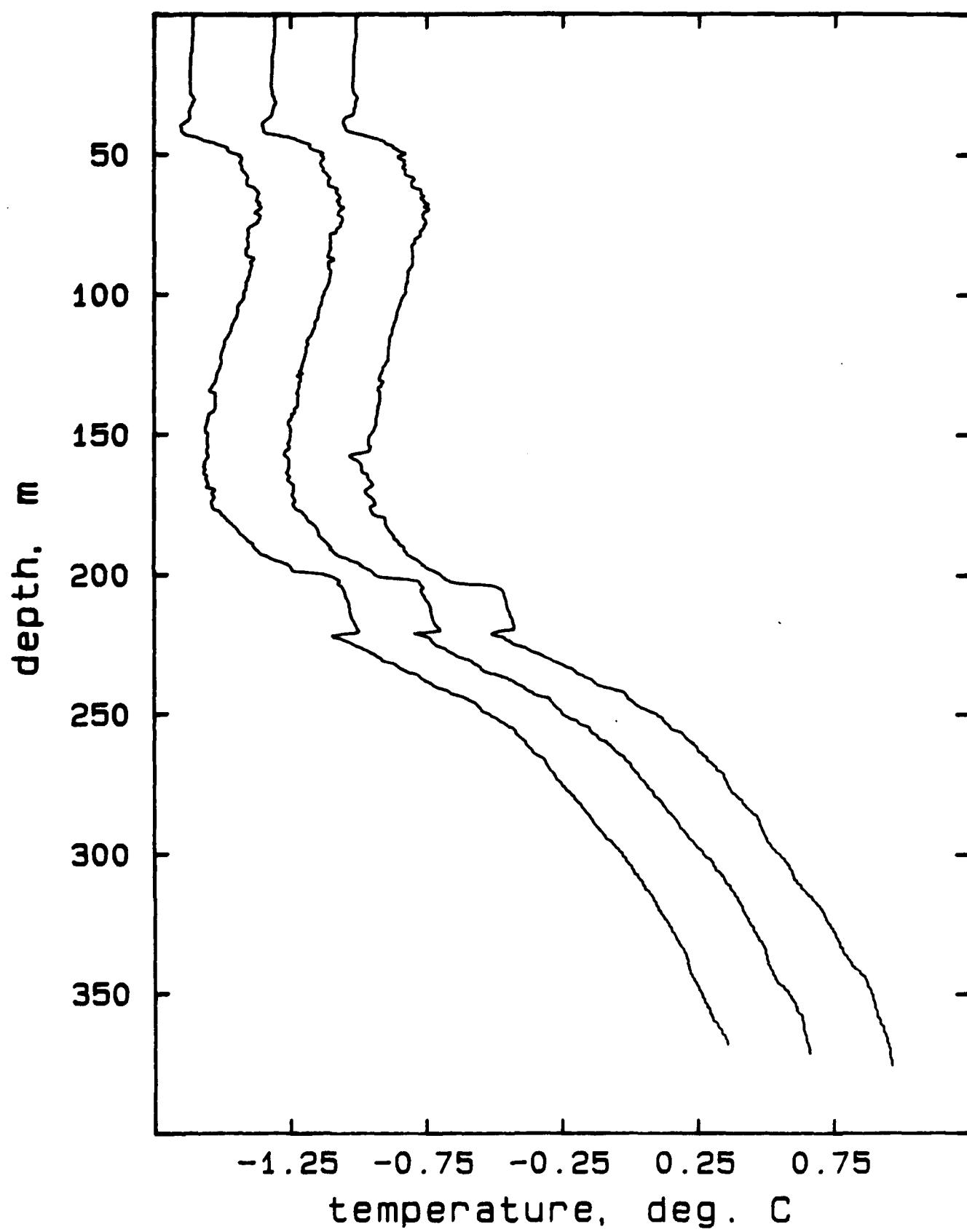
AR425C, drops 1-7



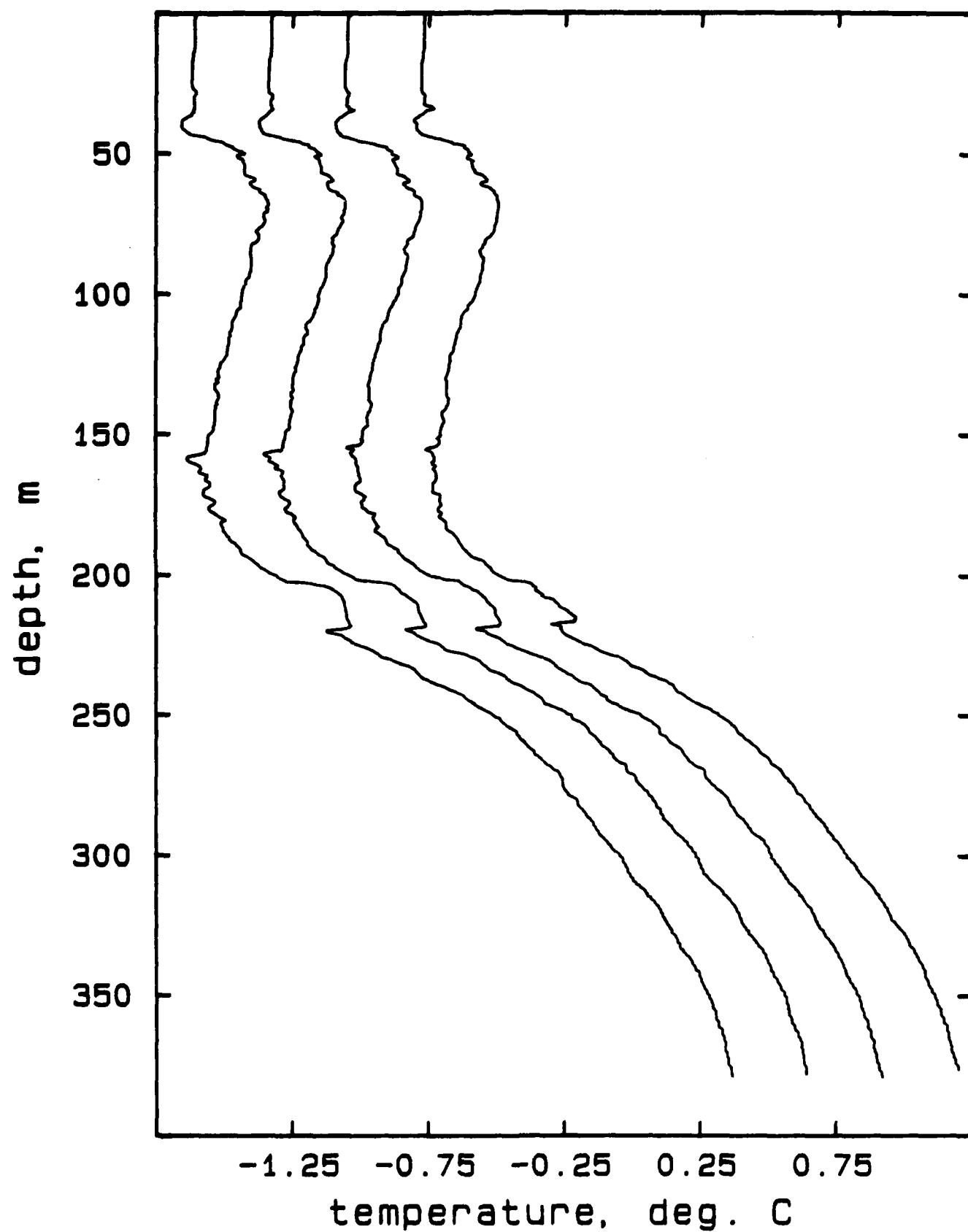
## AR425D, drops 1-4



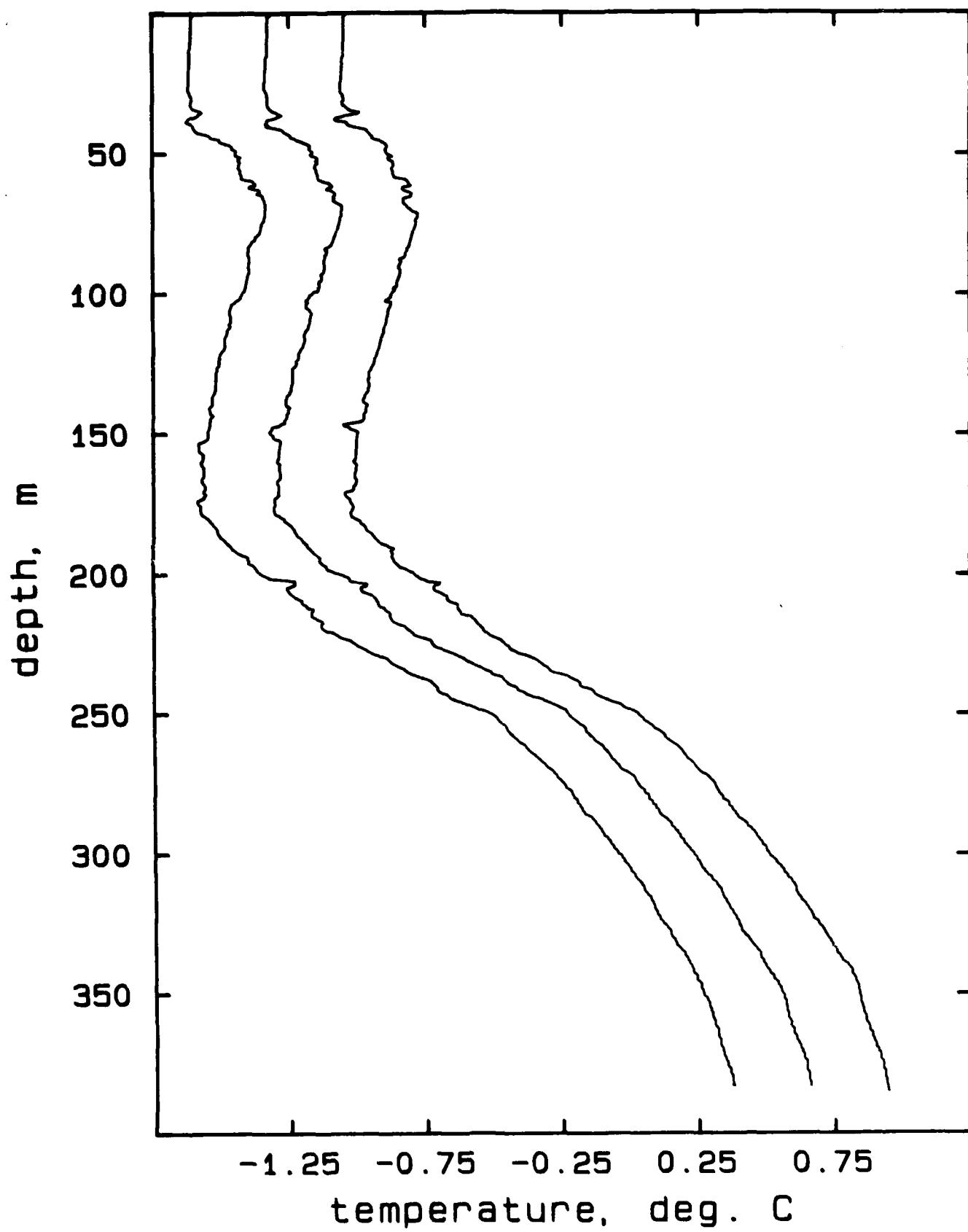
## AR4250, drops 5-7



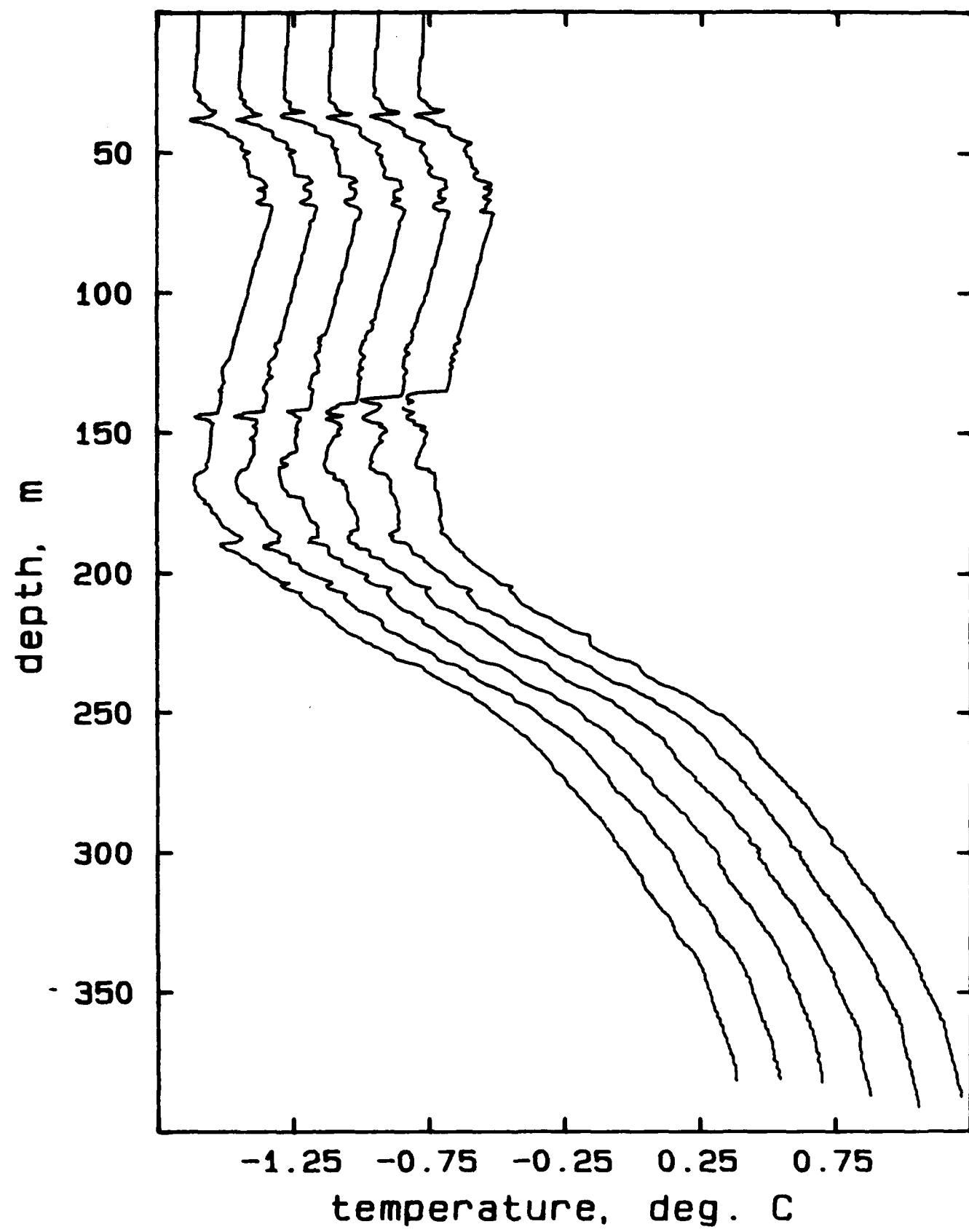
## AR425E, drops 1-4



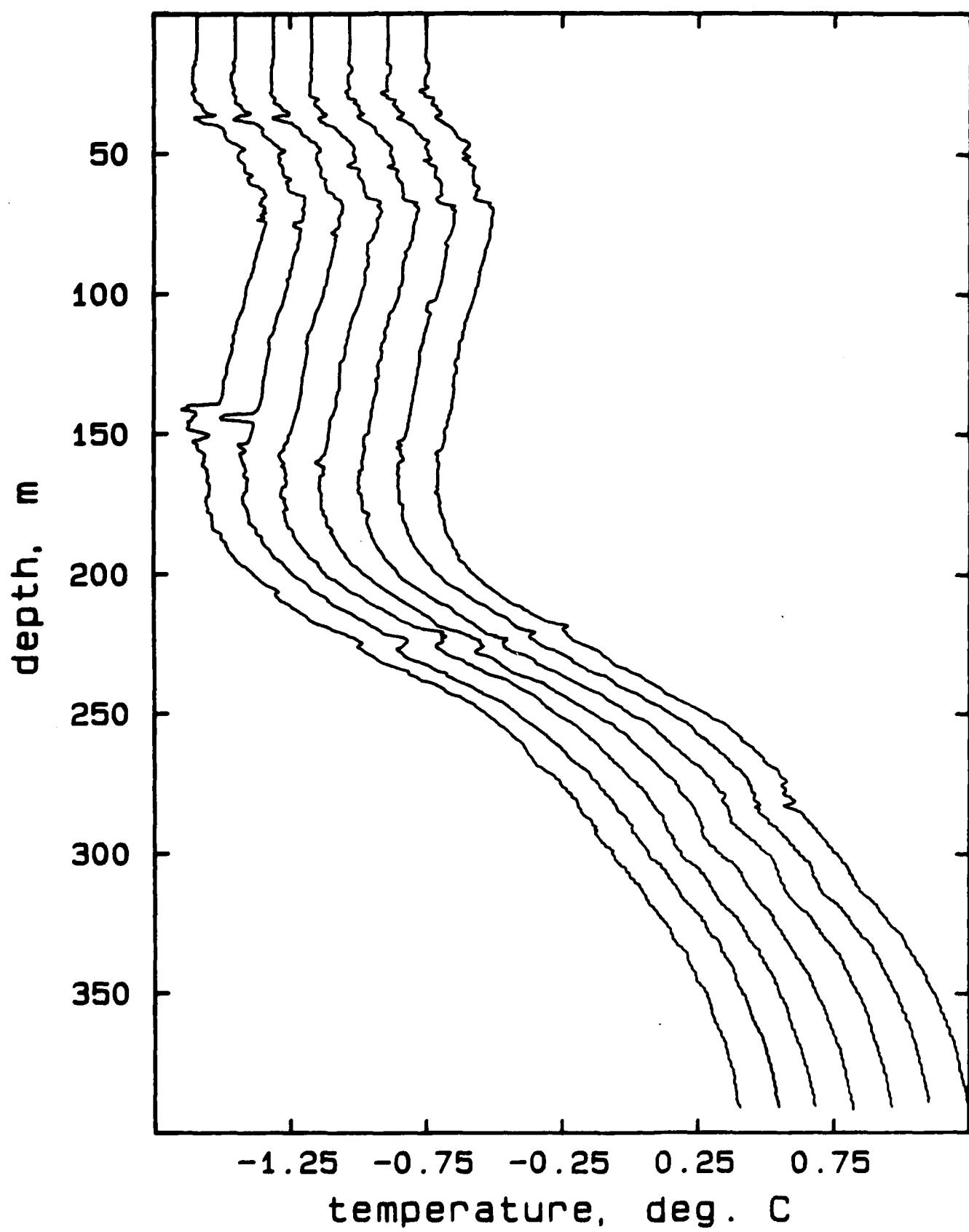
## AR425E, drops 5-7



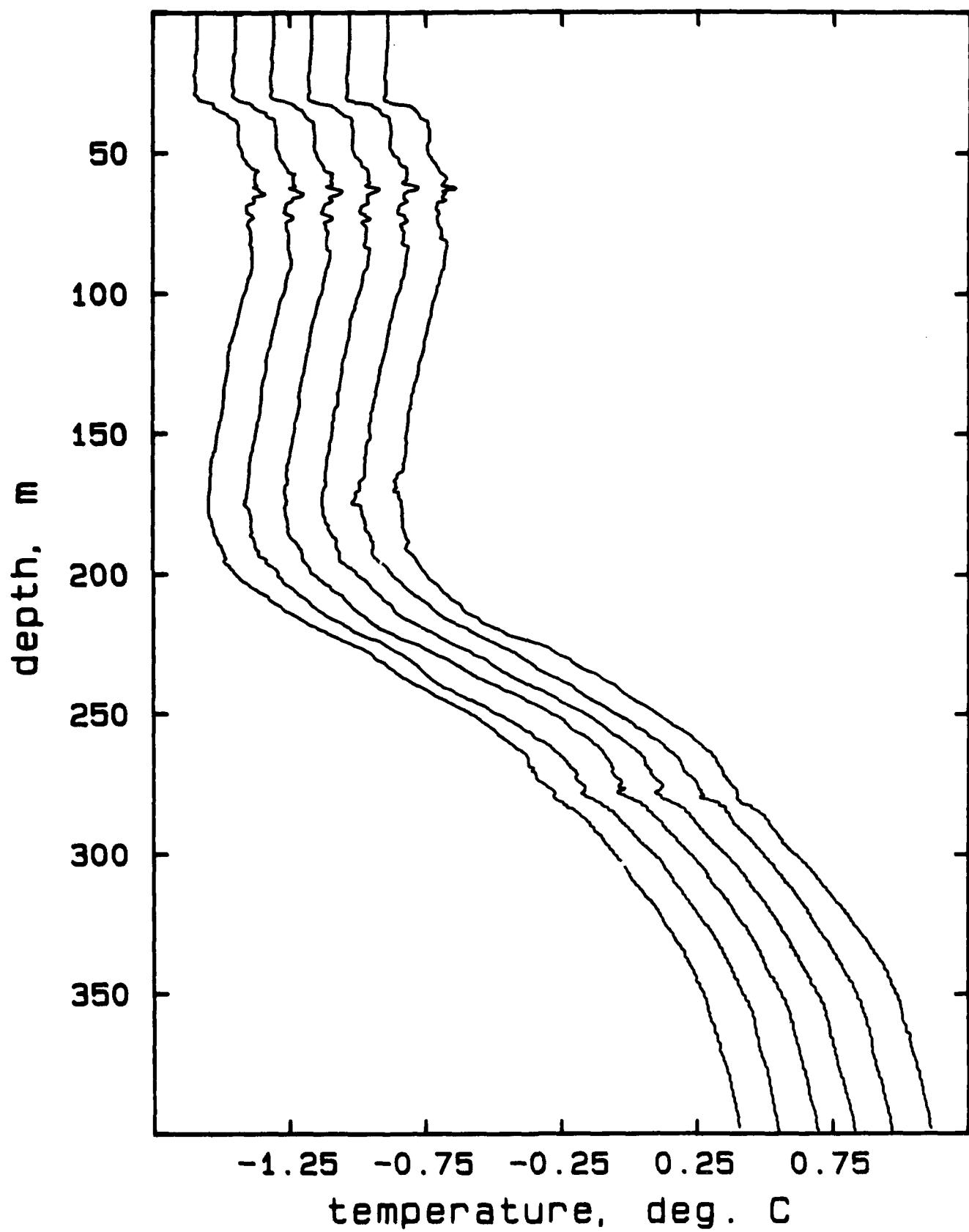
## AR425F, drops 1-6



## AR425G, drops 1-7



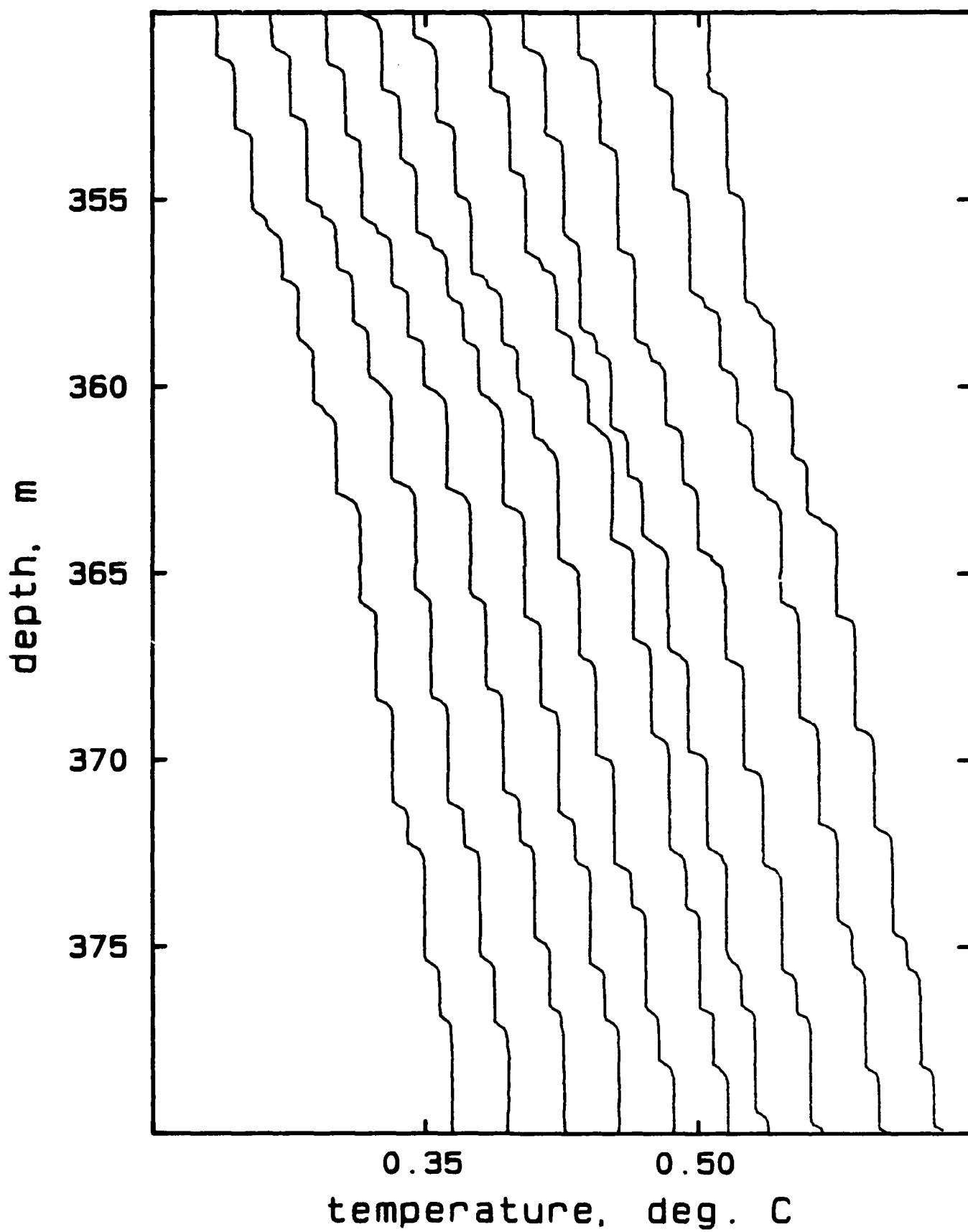
## AR426A, drops 1-6



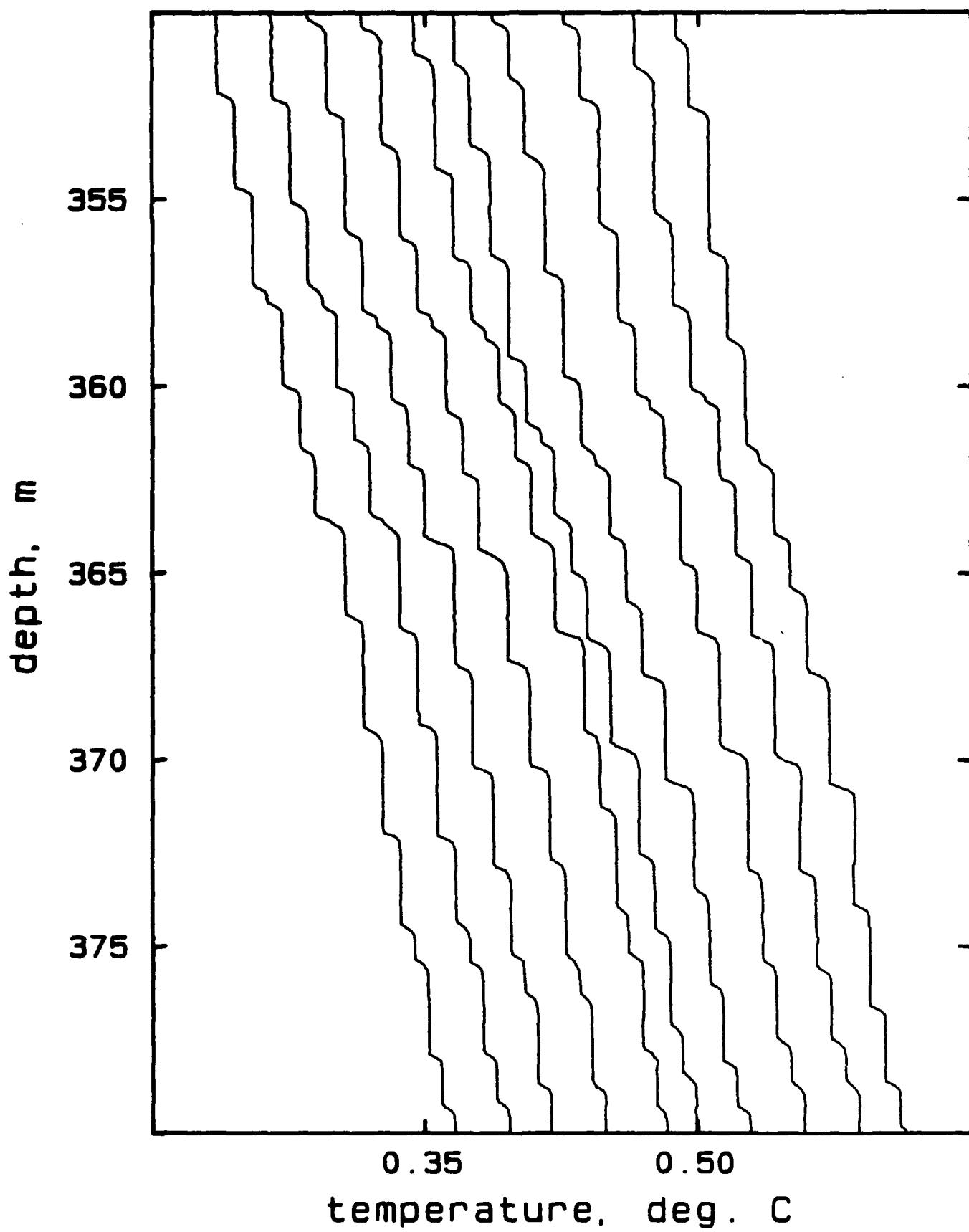
OBSERVATIONS:

D. STAIRCASE TEMPERATURE PROFILE DETAIL

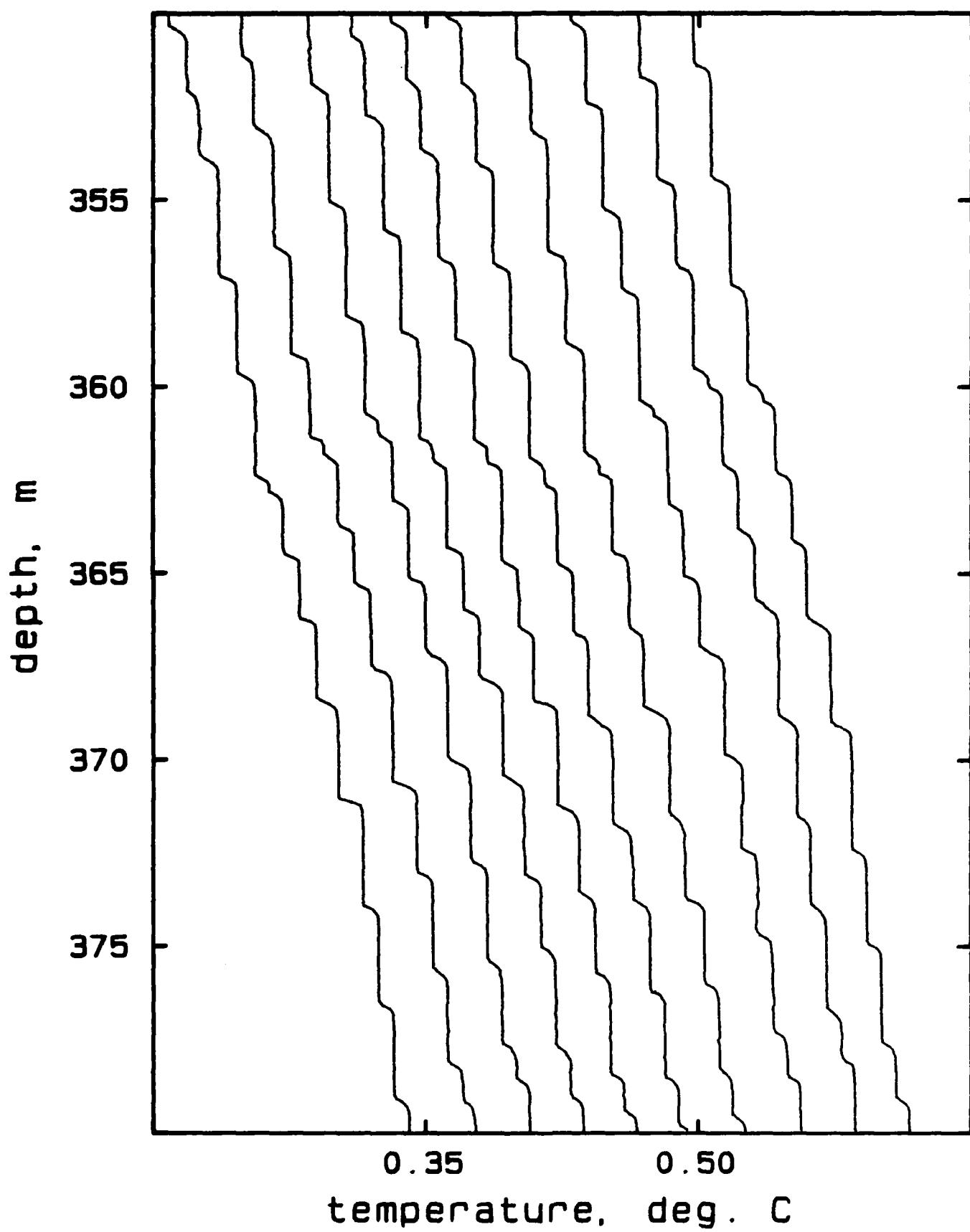
## AR422, drops A1-A10



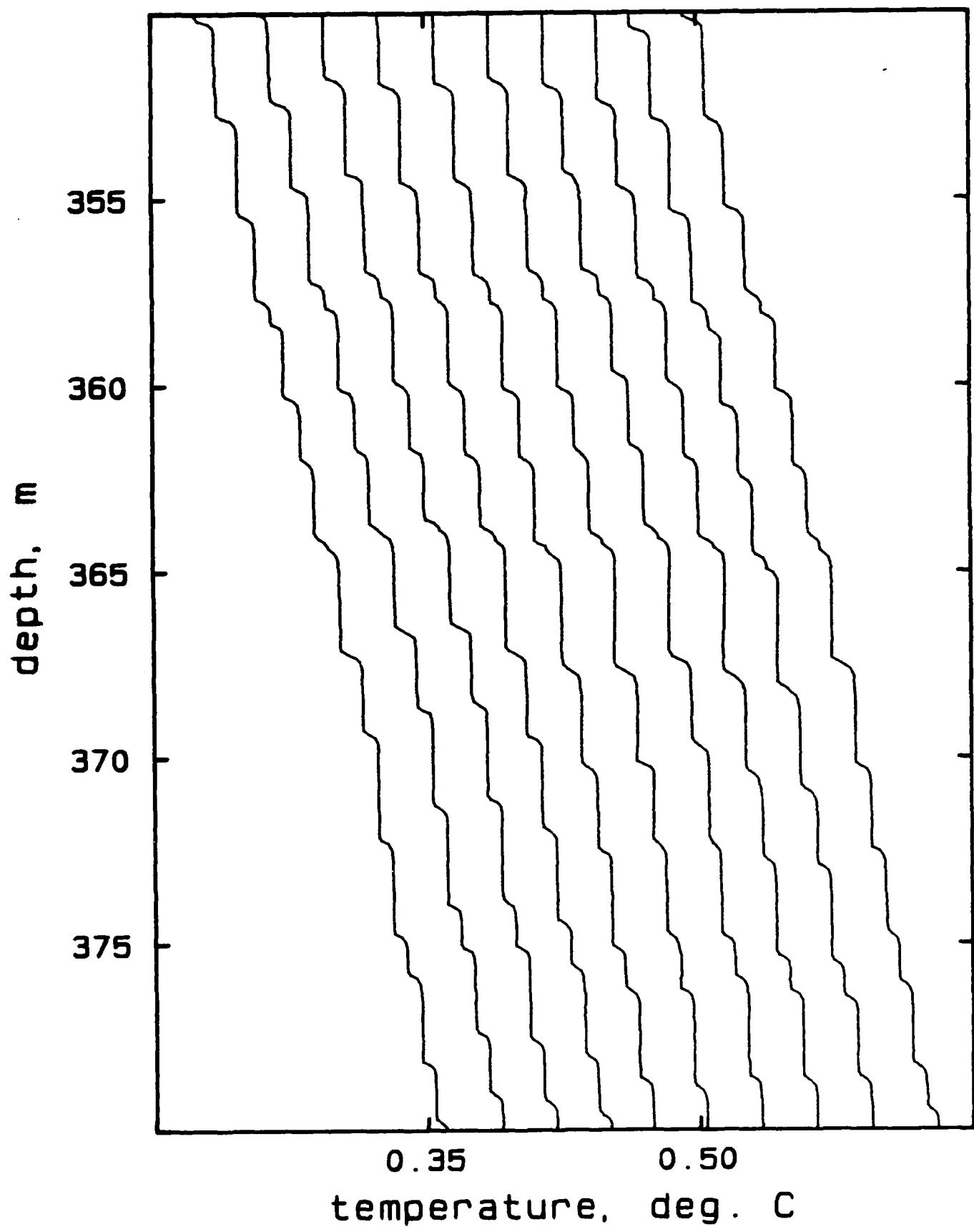
## AR422, drops A11-B6



## AR422, drops B7-C1



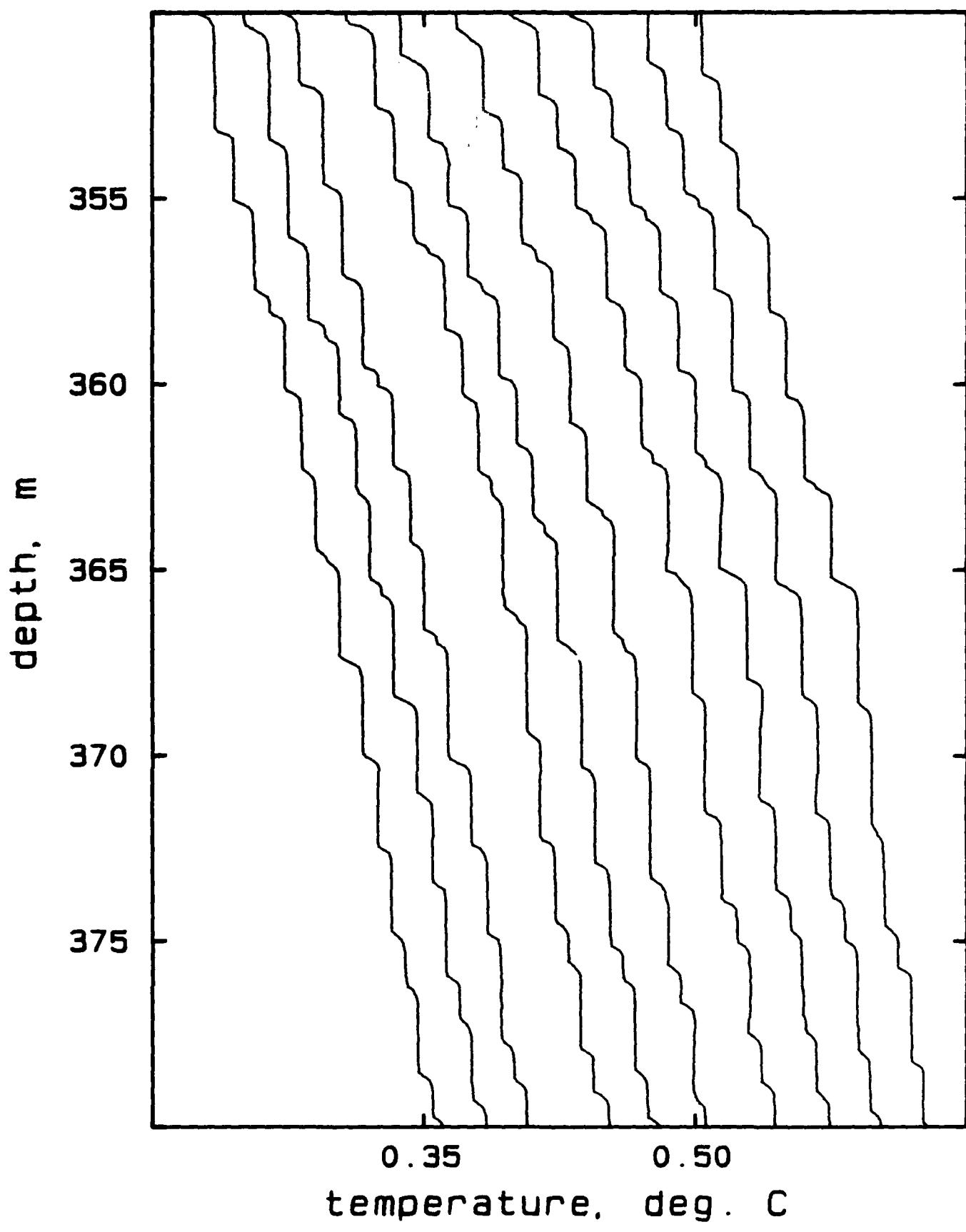
## AR422, drops C8-C17



18  
17  
16  
15  
14  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1  
0

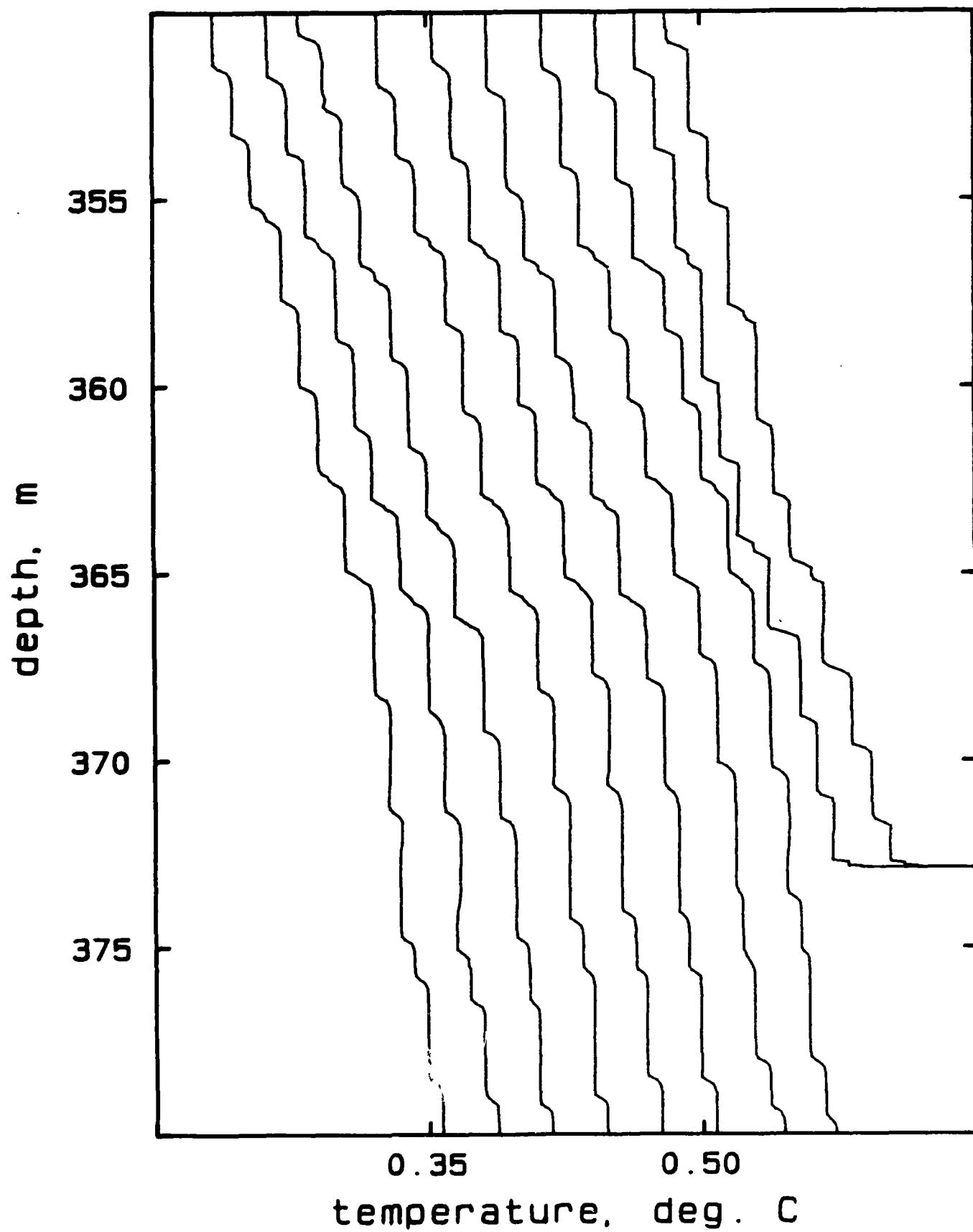
350

AR422, drops C18-07

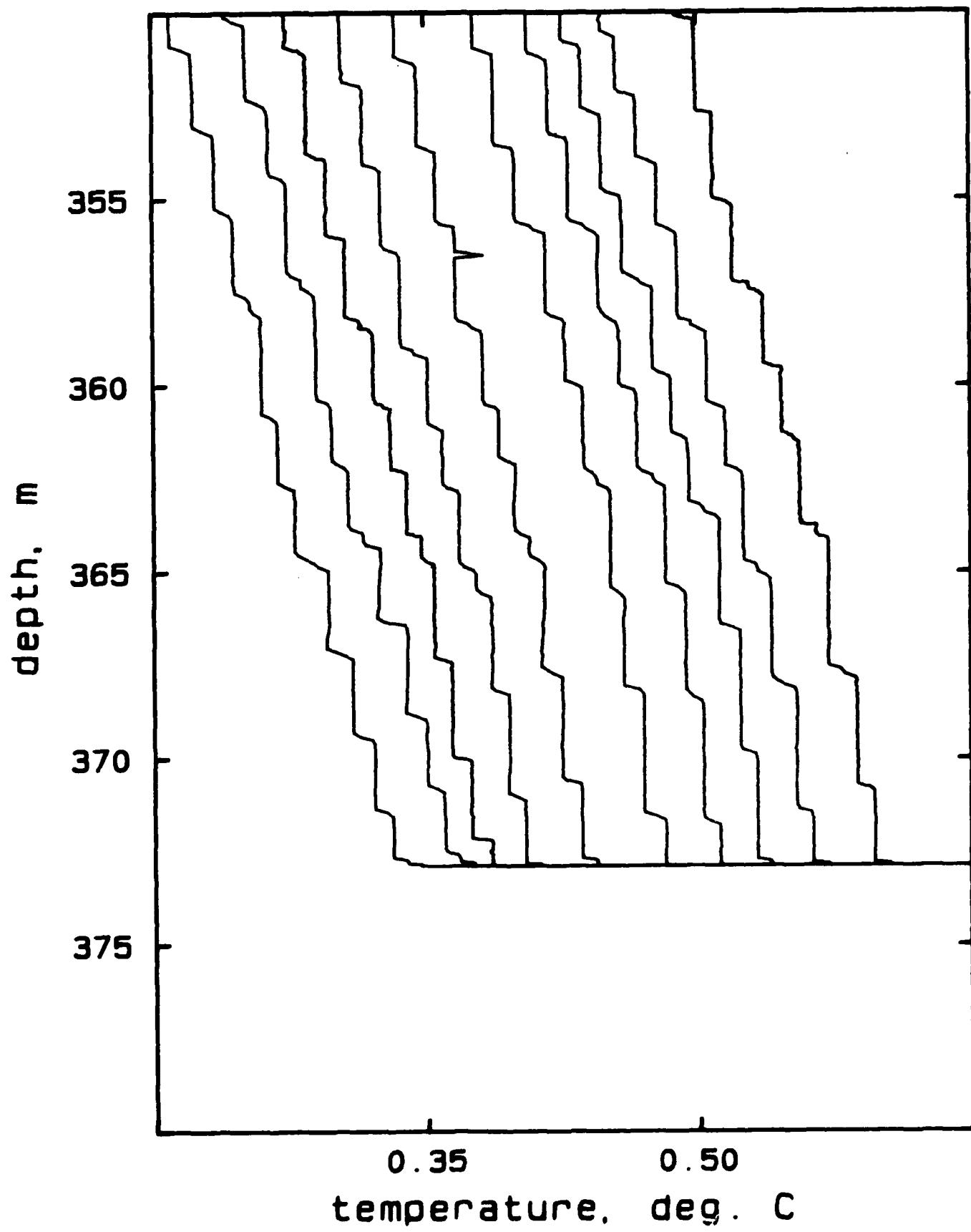


351

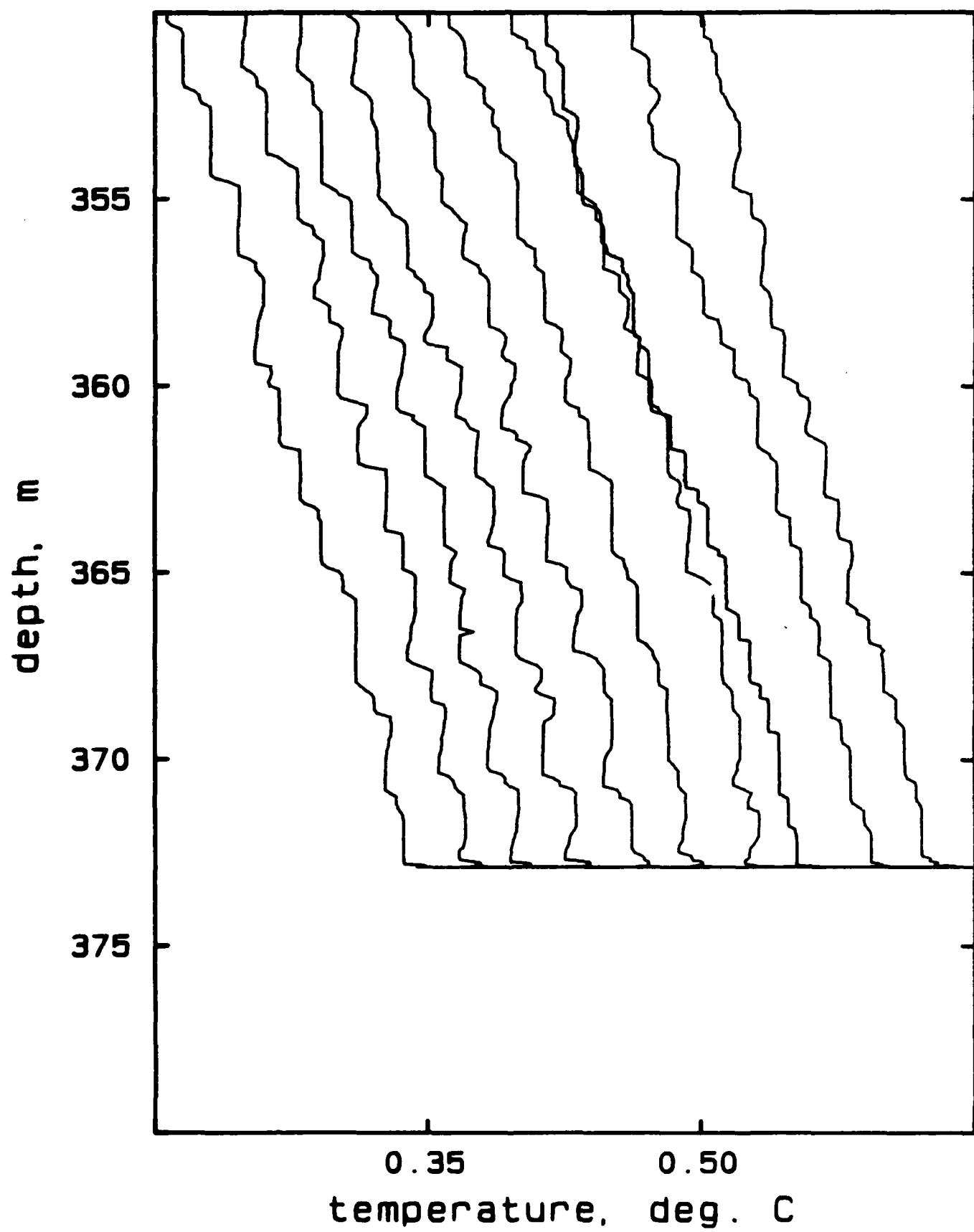
## AR422, drops D8-E2



## AR422, drops E3-F5

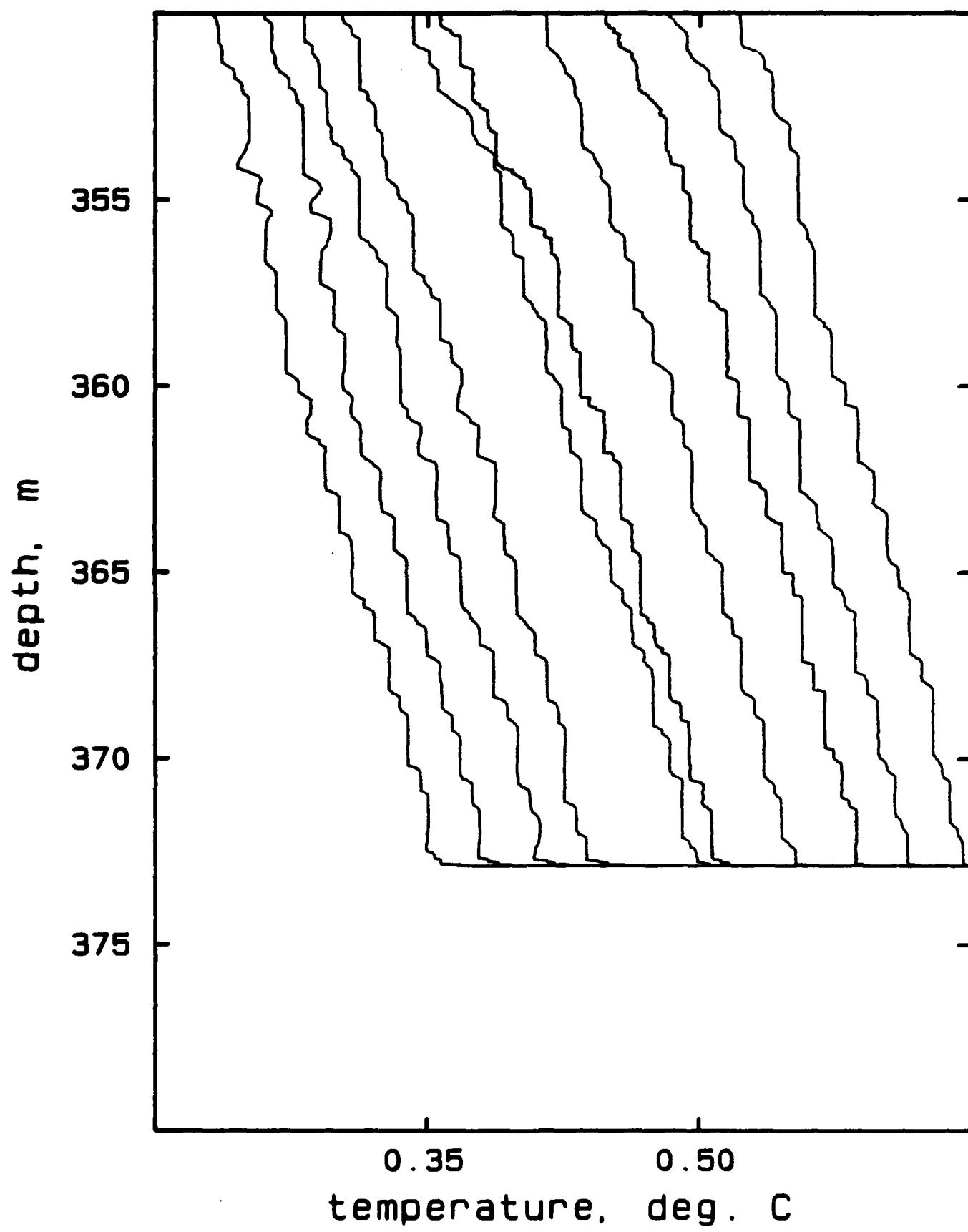


## AR422, drops G1-G10

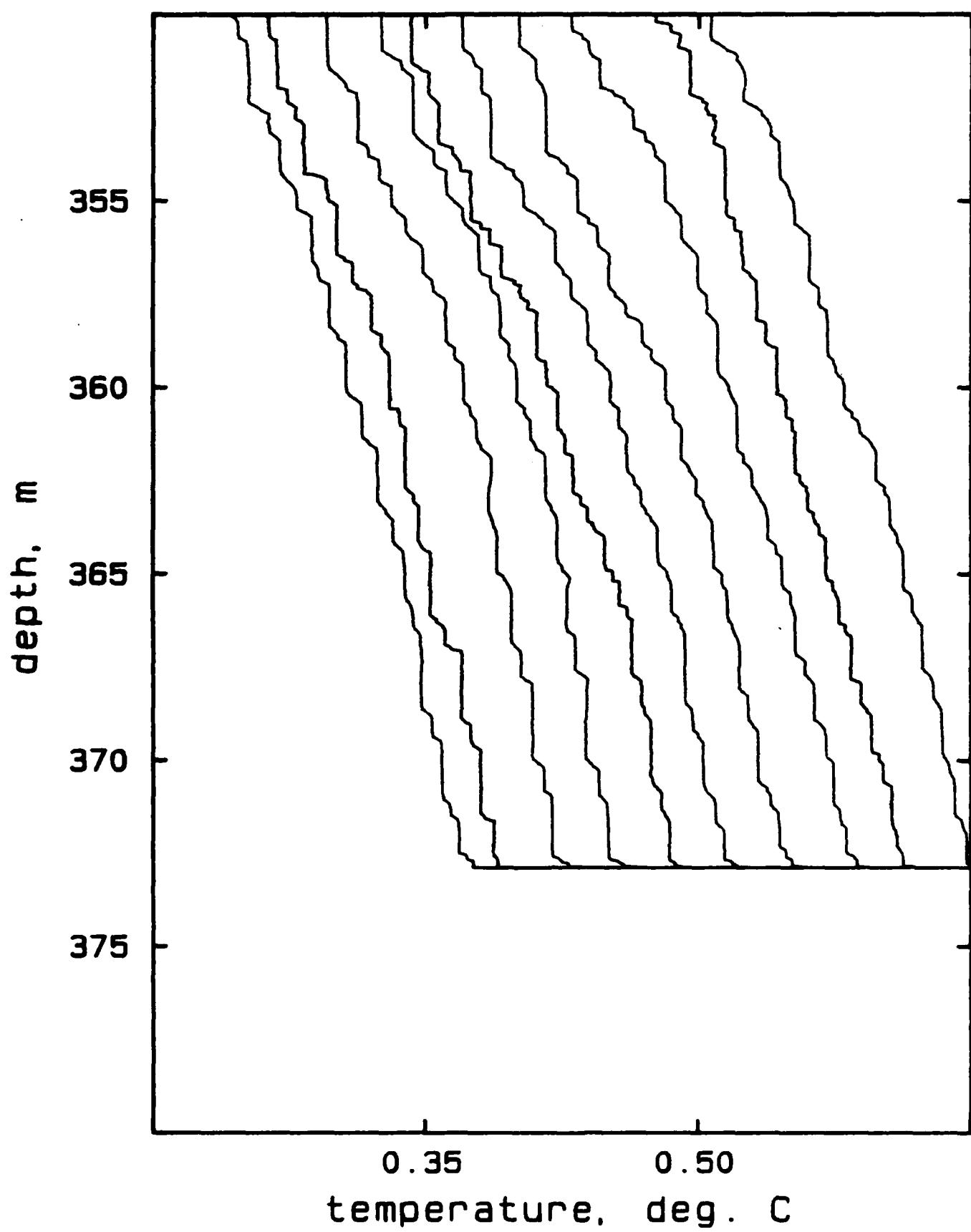


354

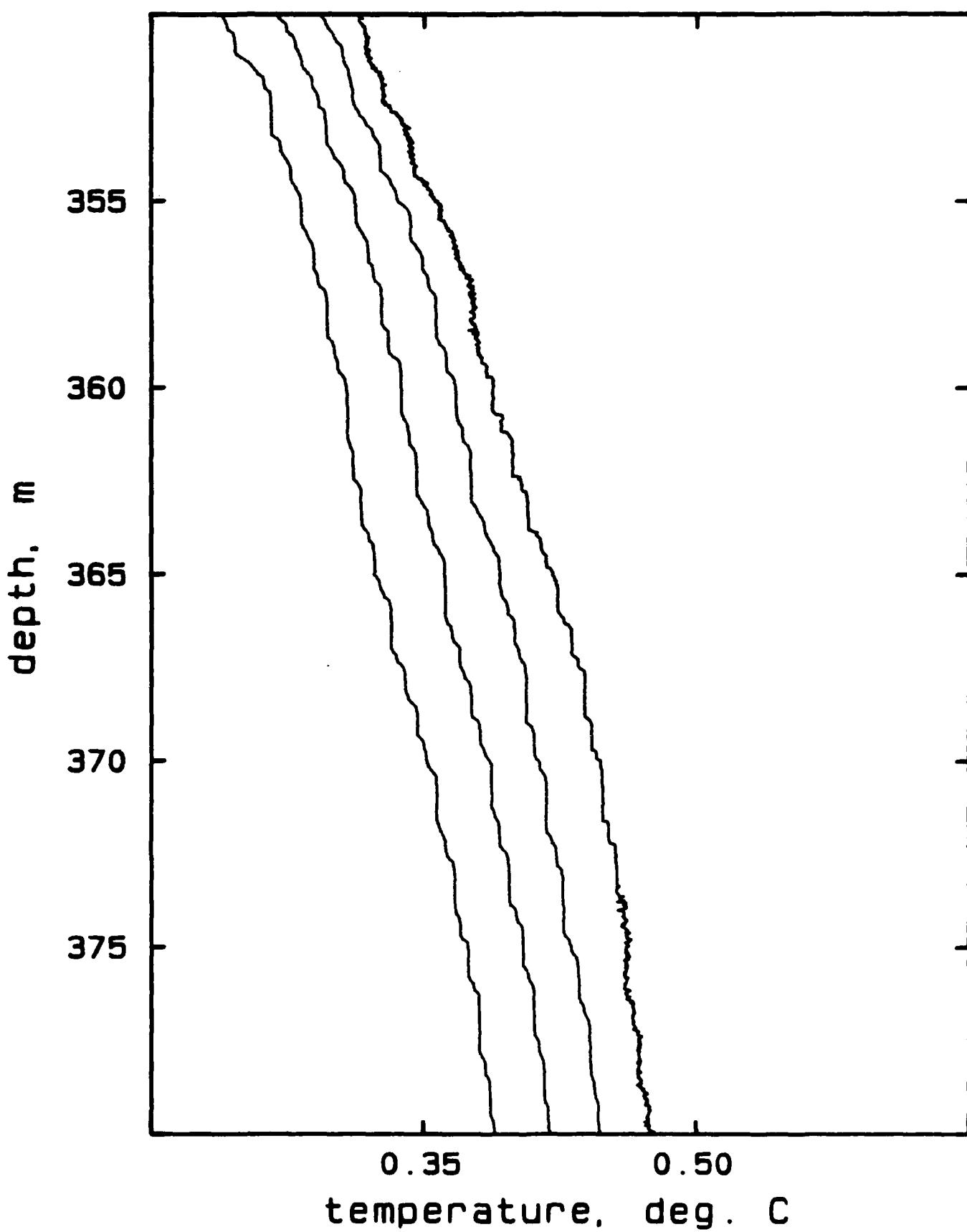
AR422, drops G11-H6



## AR422, drops I1-J3

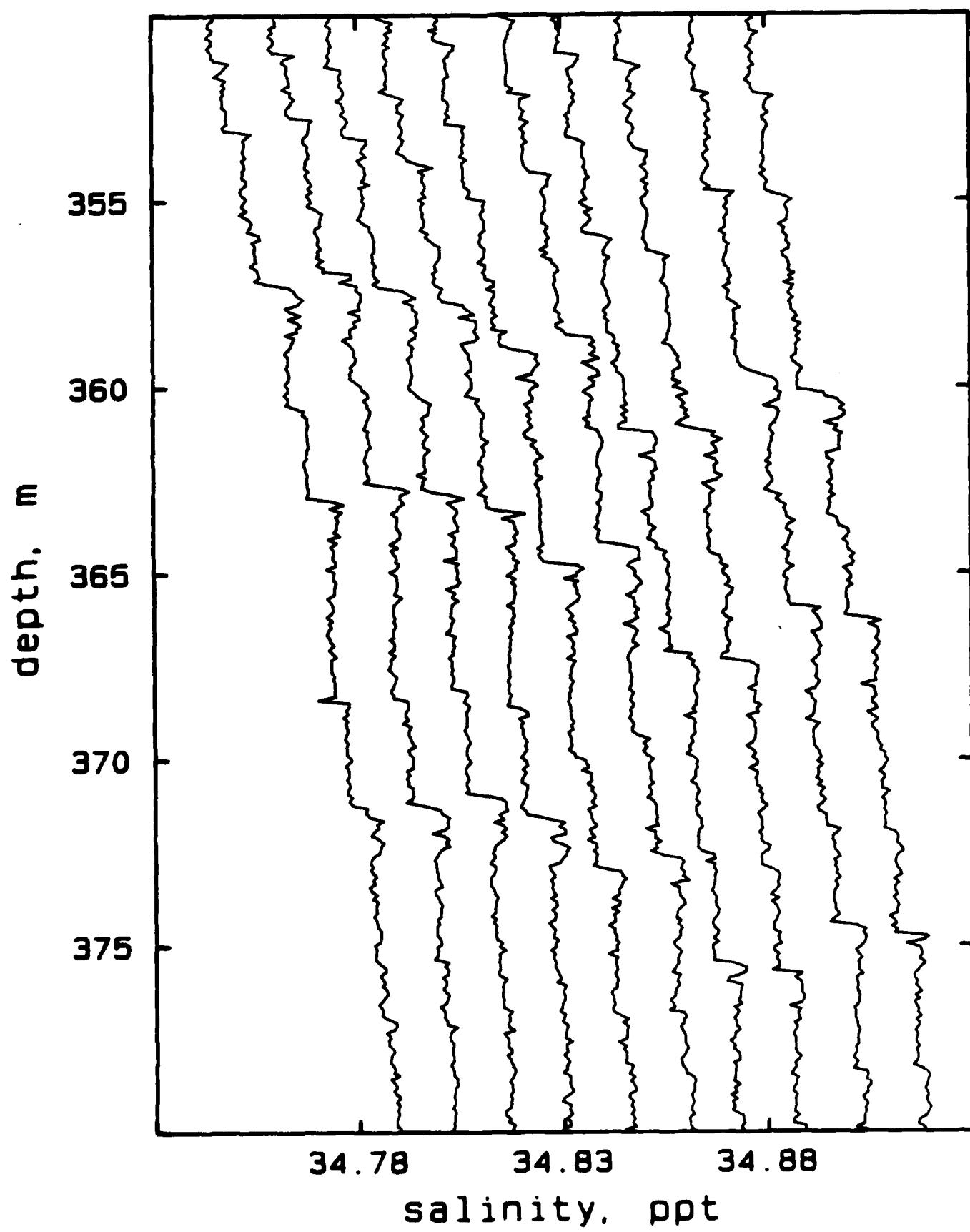


## AR422, drops J4-J7

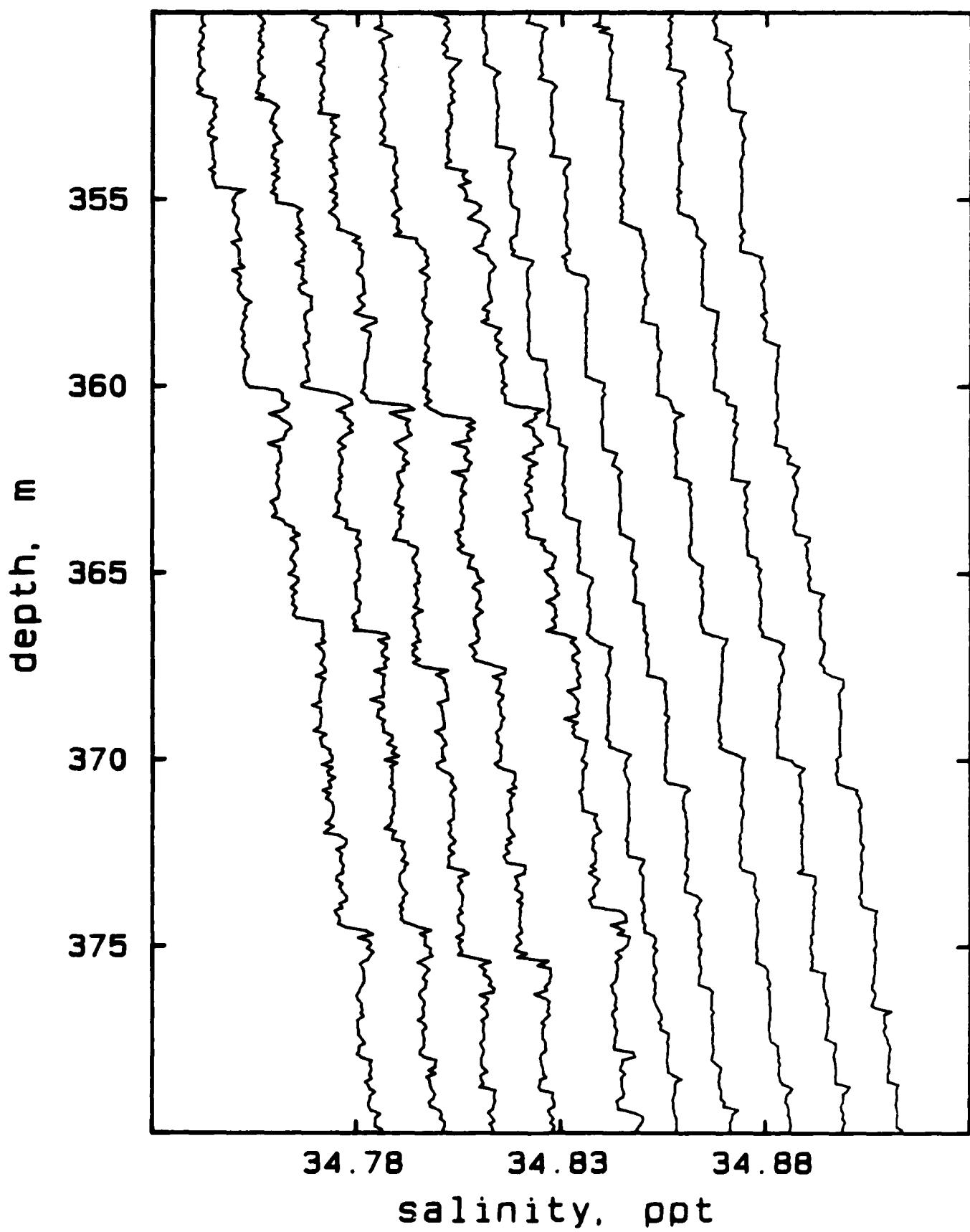


357

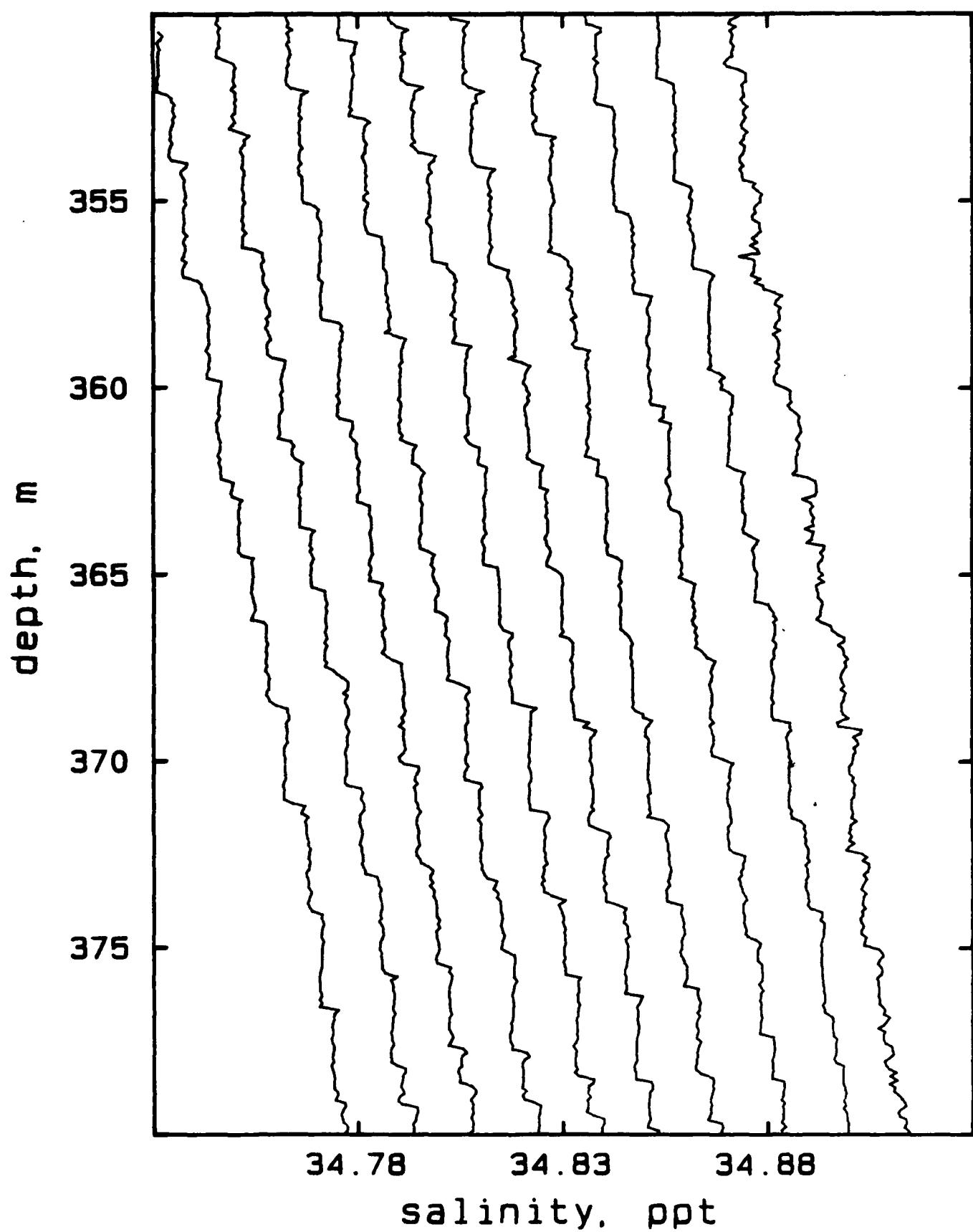
AR422, drops A1-A10



## AR422. drops A11-B6

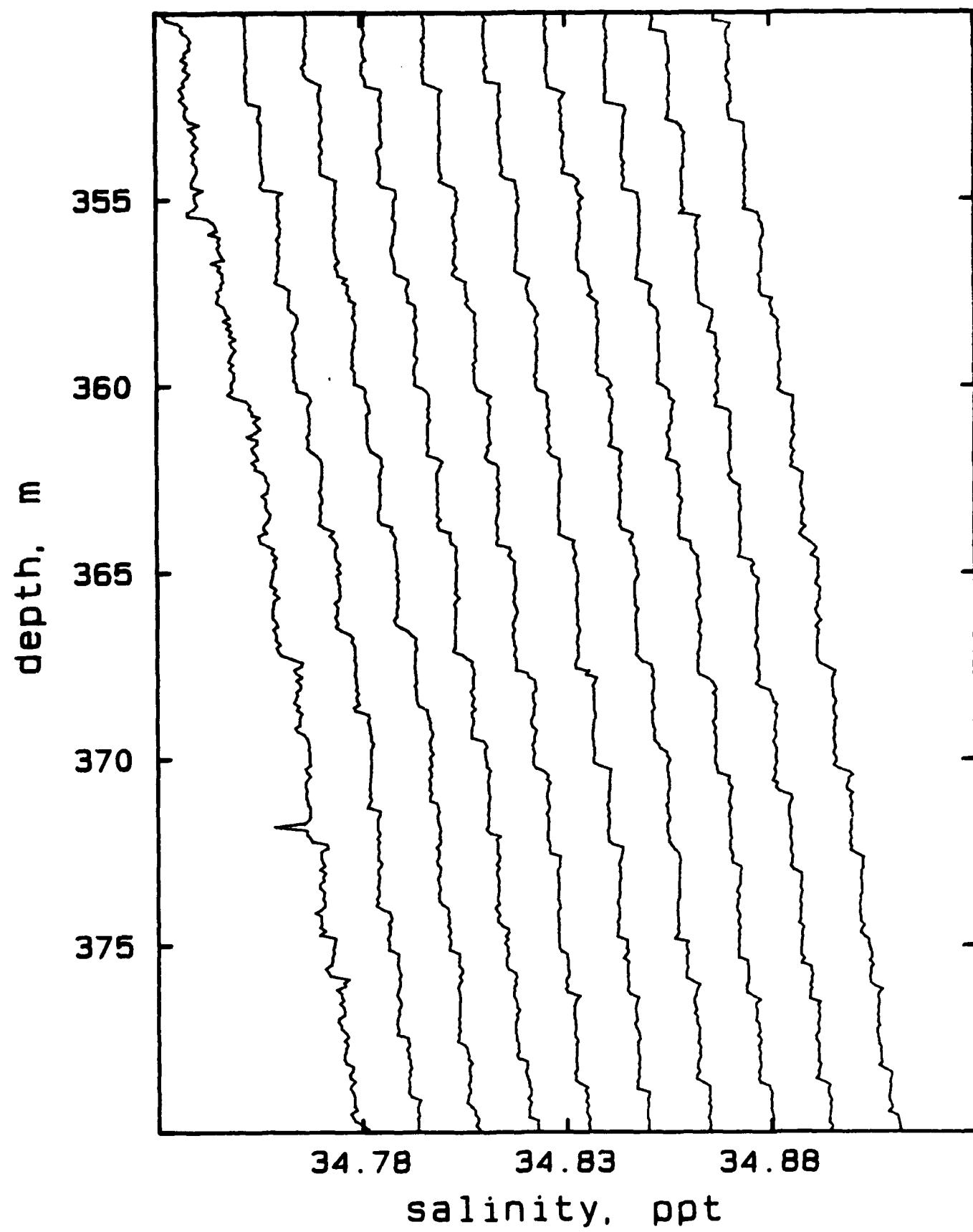


## AR422, drops B7-C1

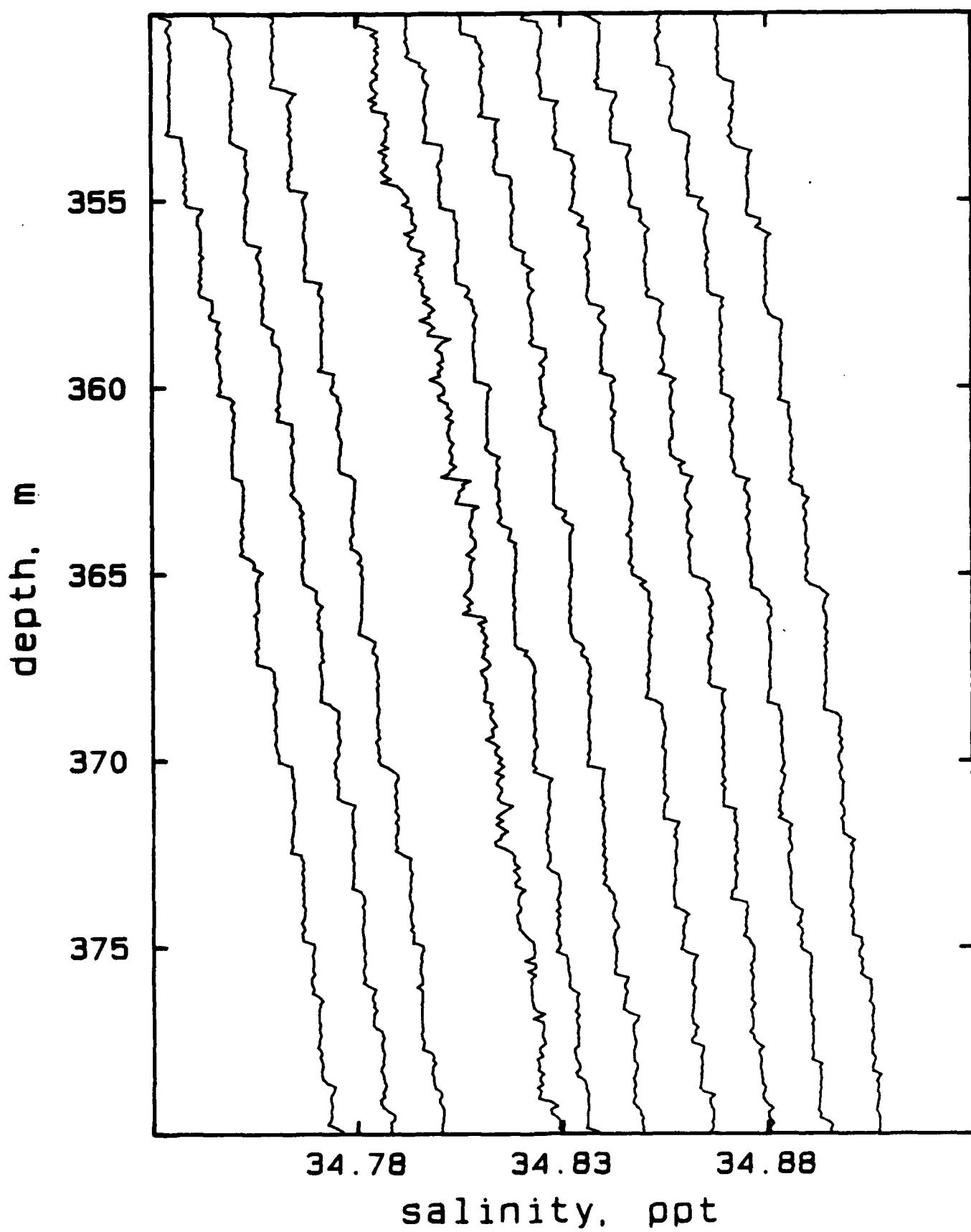


360

## AR422, drops C8-C17

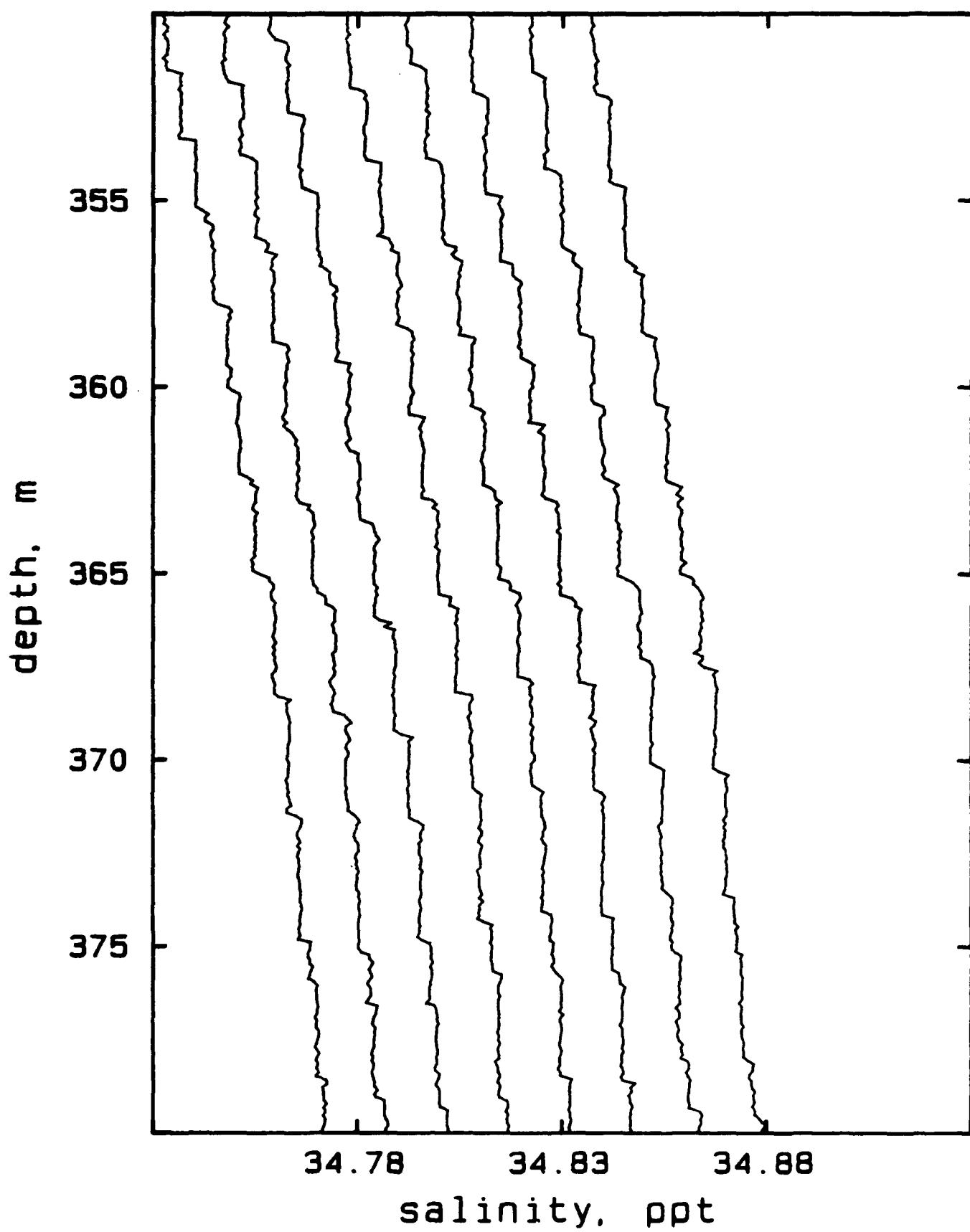


## AR422, drops C18-07



362

AR422, drops D8-D15

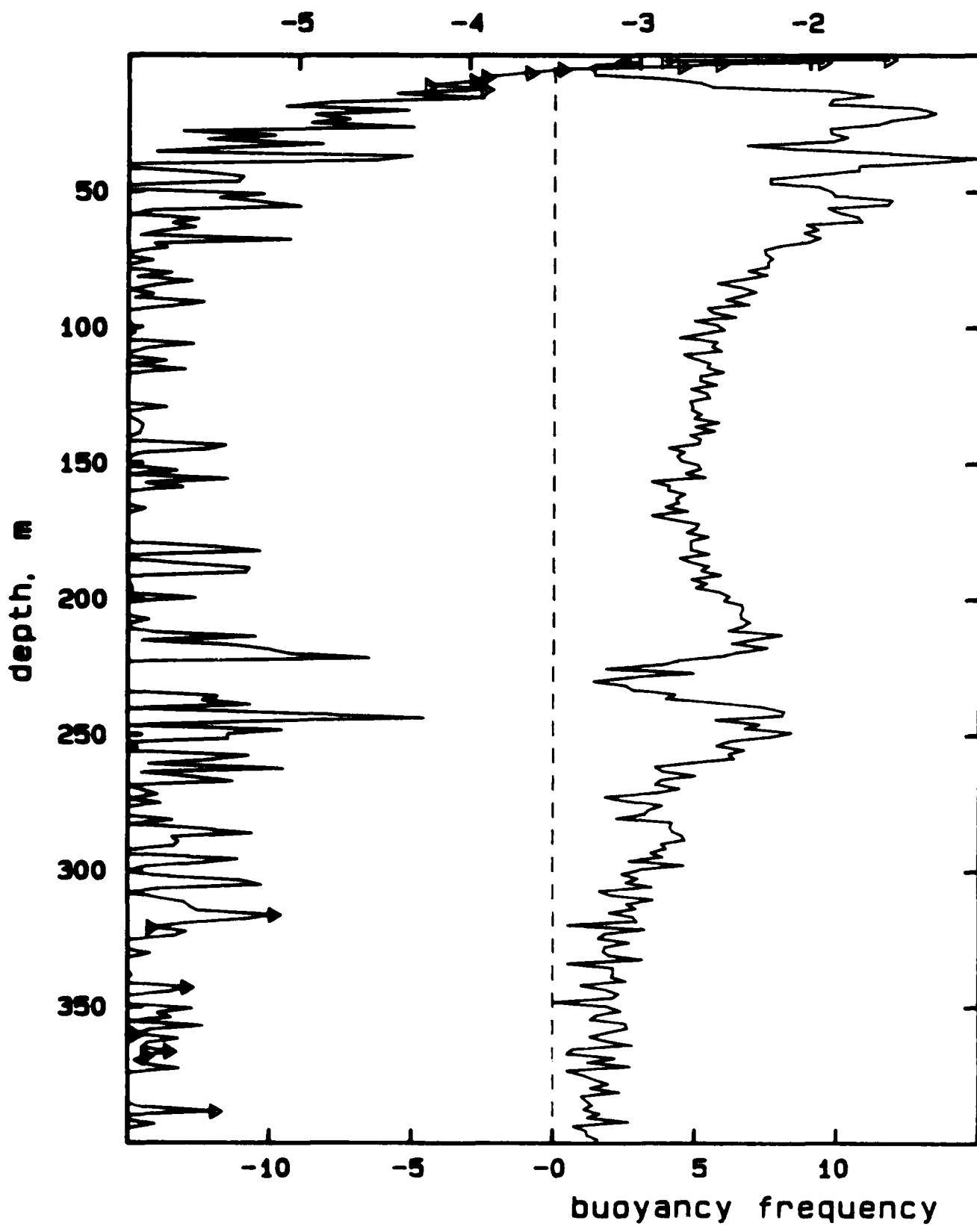


**OBSERVATIONS:**

**E. DISSIPATION RATES**

DA424A .001

log (dissipation rate) [cgs]



365

DA424A.002

log (dissipation rate) [cgs]

-5

-4

-3

-2

depth, m

50

100

150

200

250

300

350

-10

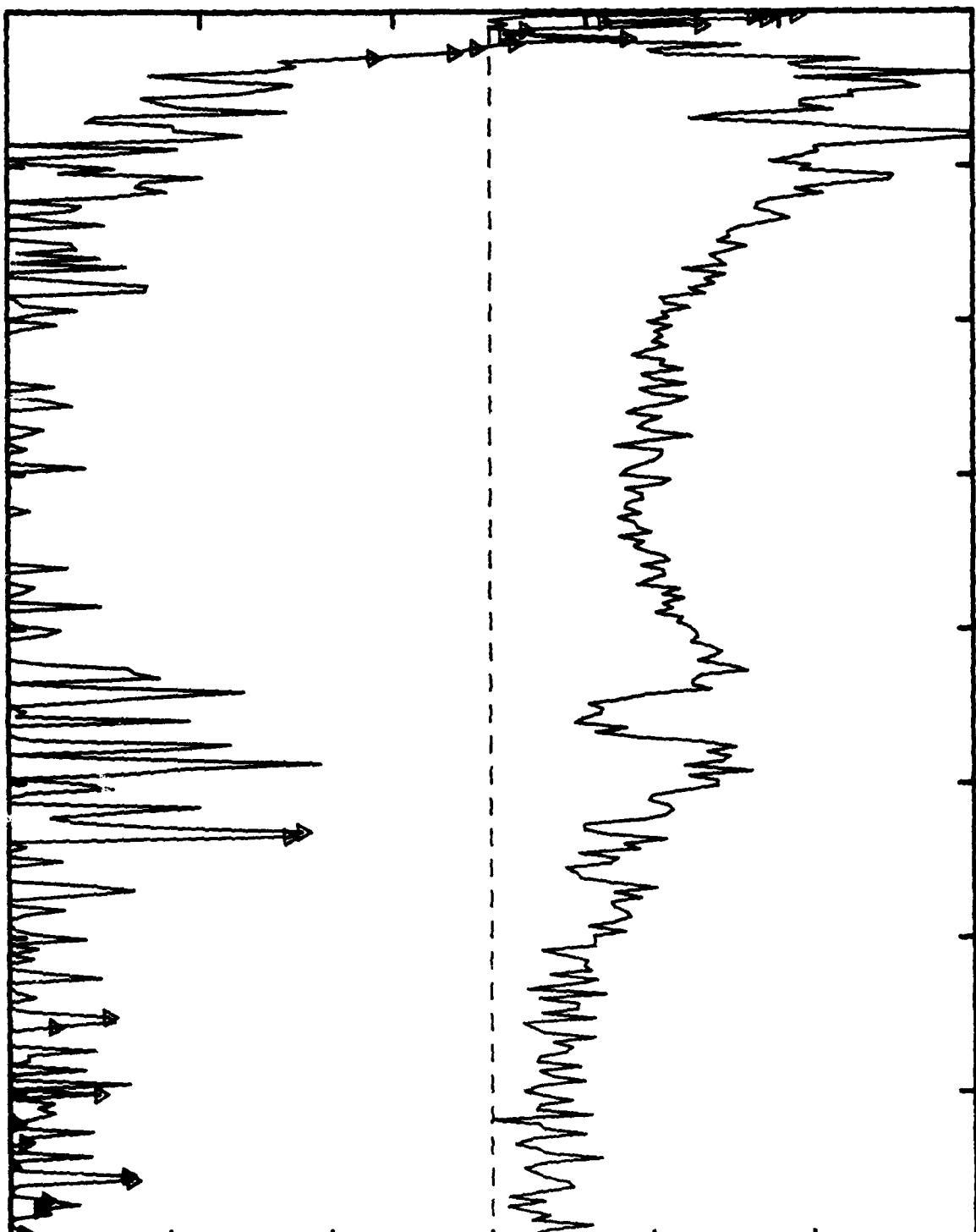
-5

-0

5

10

buoyancy frequency



365

DA424A.002

log (dissipation rate) [cgs]

-5

-4

-3

-2

-1

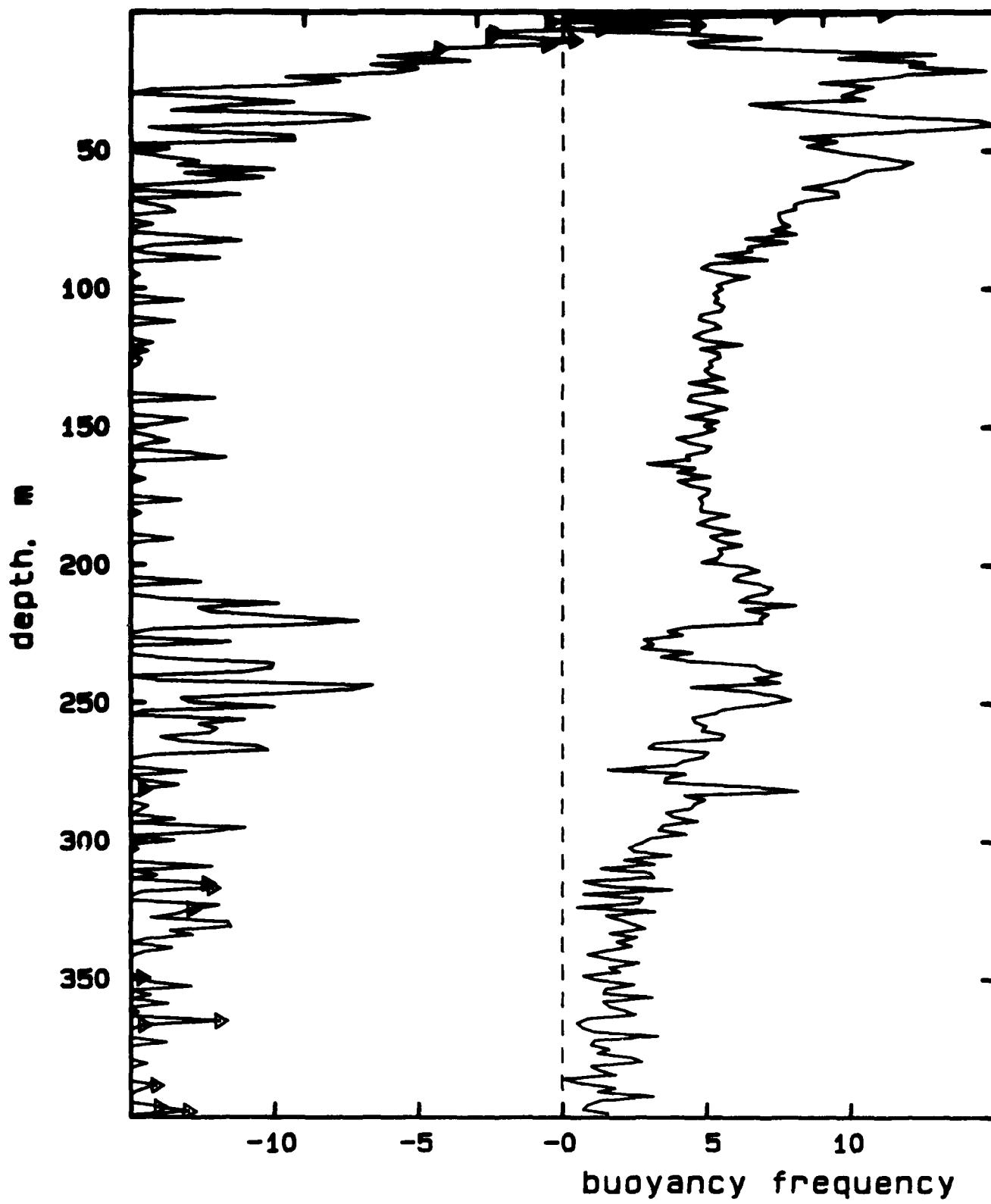
0

1

DA424A.003

log (dissipation rate) [cgs]

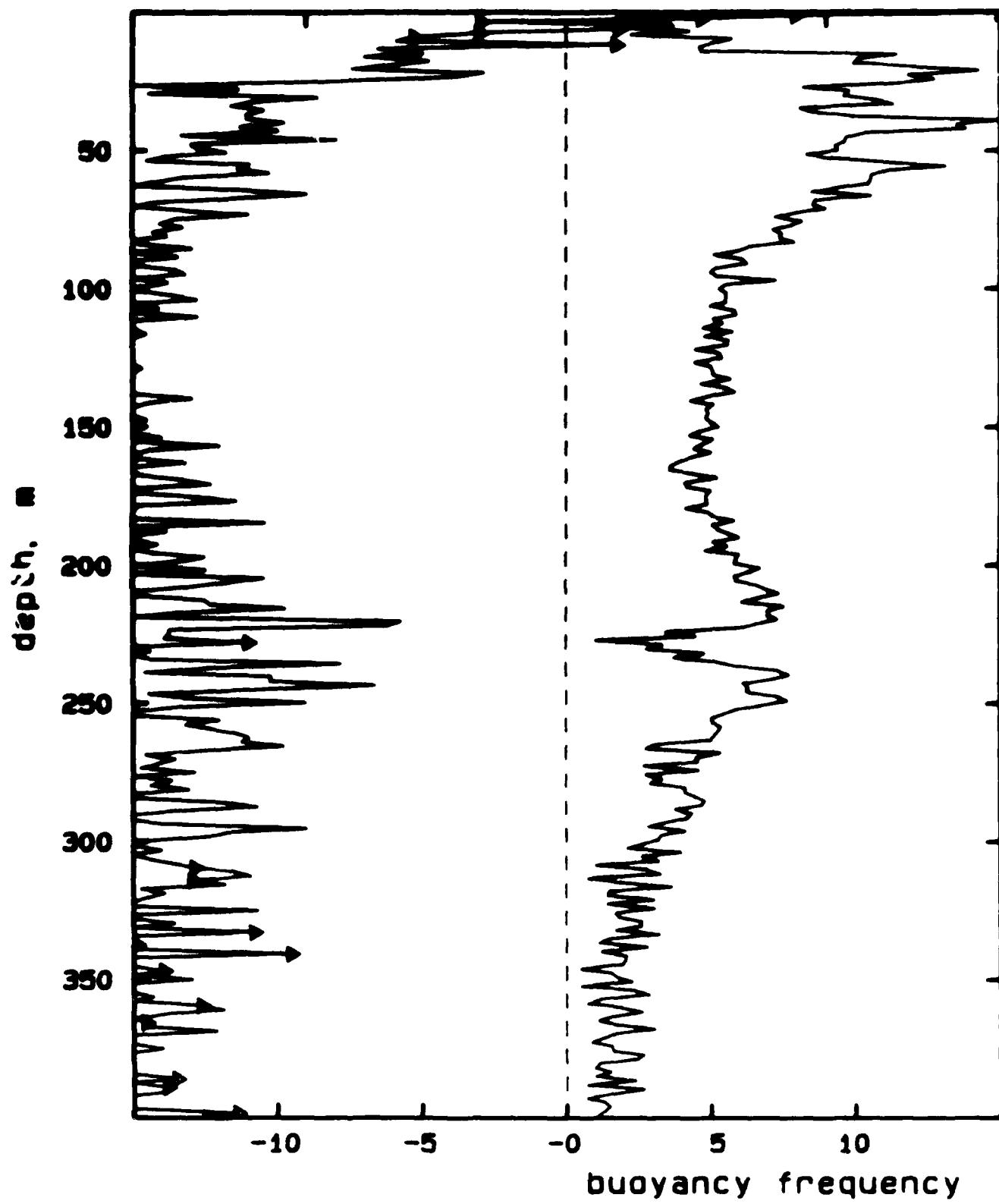
-5      -4      -3      -2



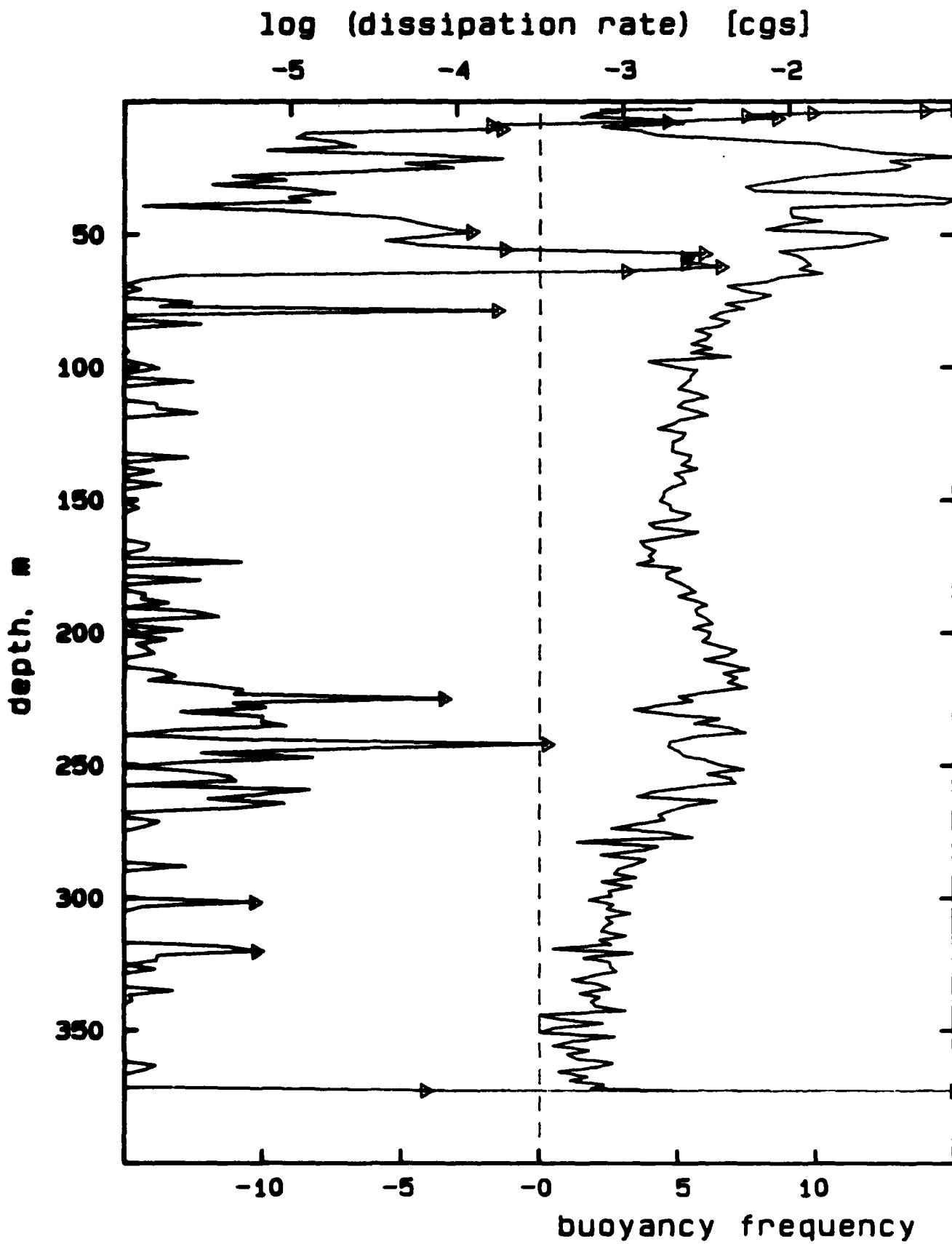
DA424A.004

log (dissipation rate) [cgs]

-5      -4      -3      -2



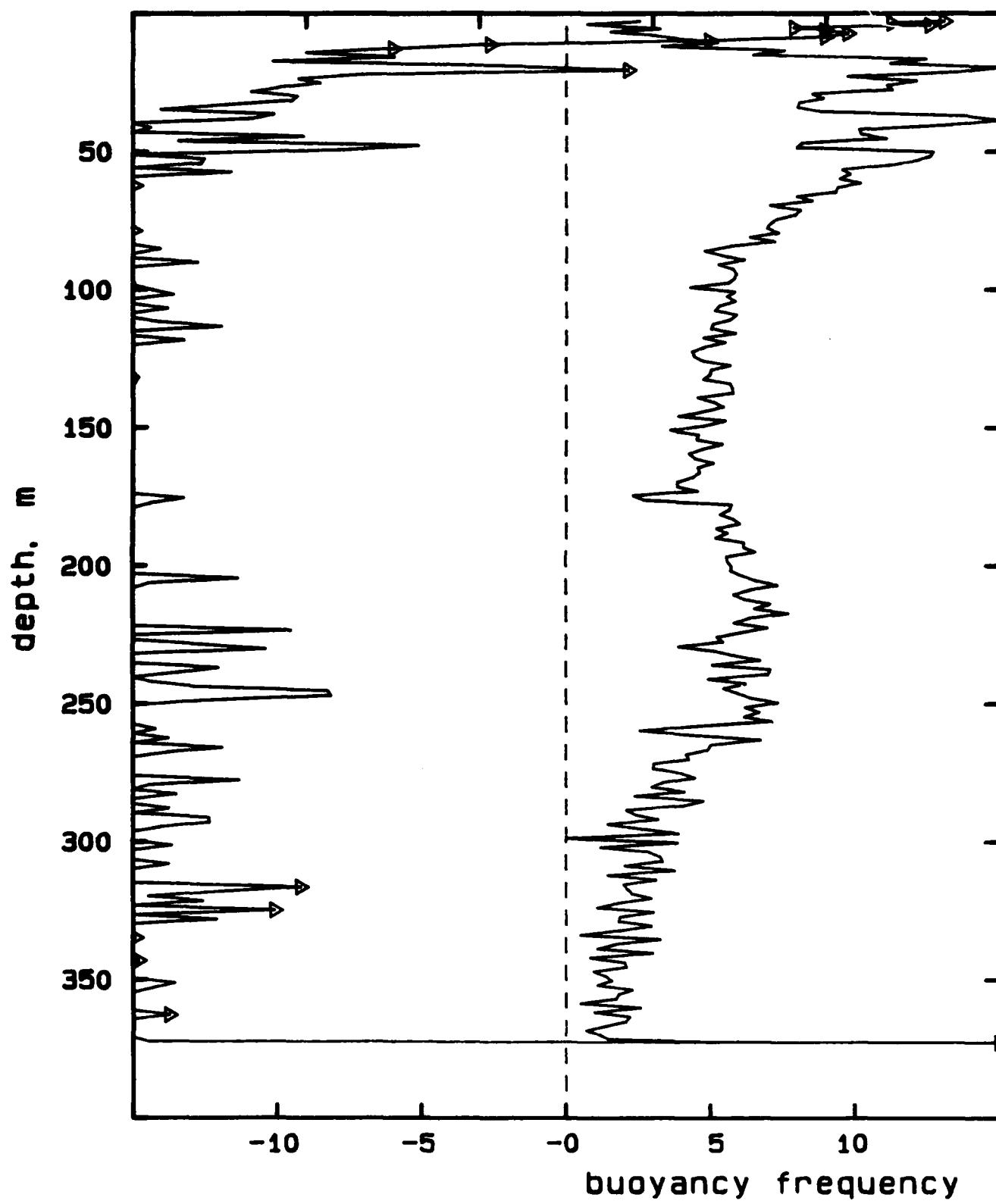
DA4248.001



DA424B.002

log (dissipation rate) [cgs]

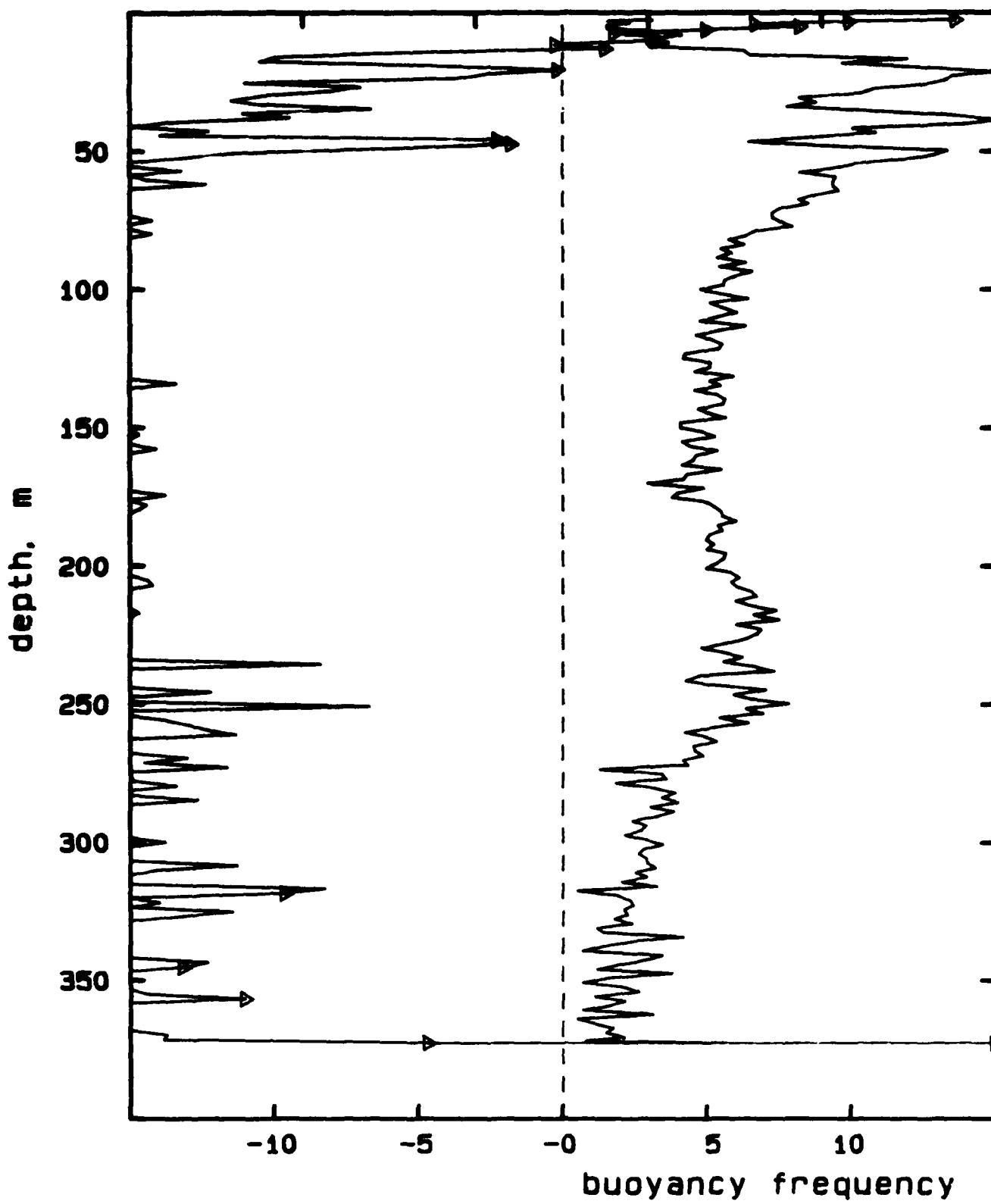
-5 -4 -3 -2



DA424B.003

log (dissipation rate) [cgs]

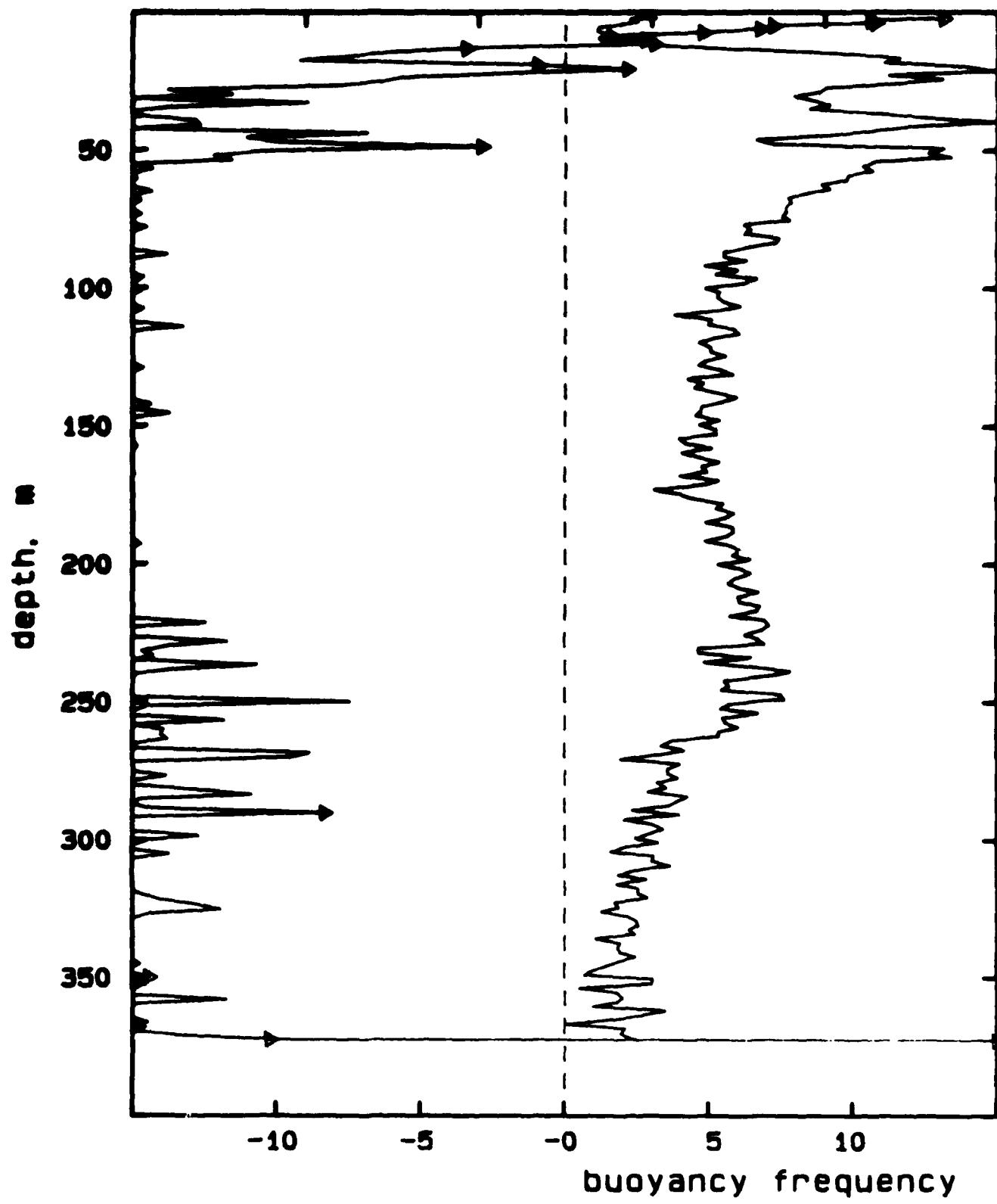
-5      -4      -3      -2



DA4248.005

log (dissipation rate) [cgs]

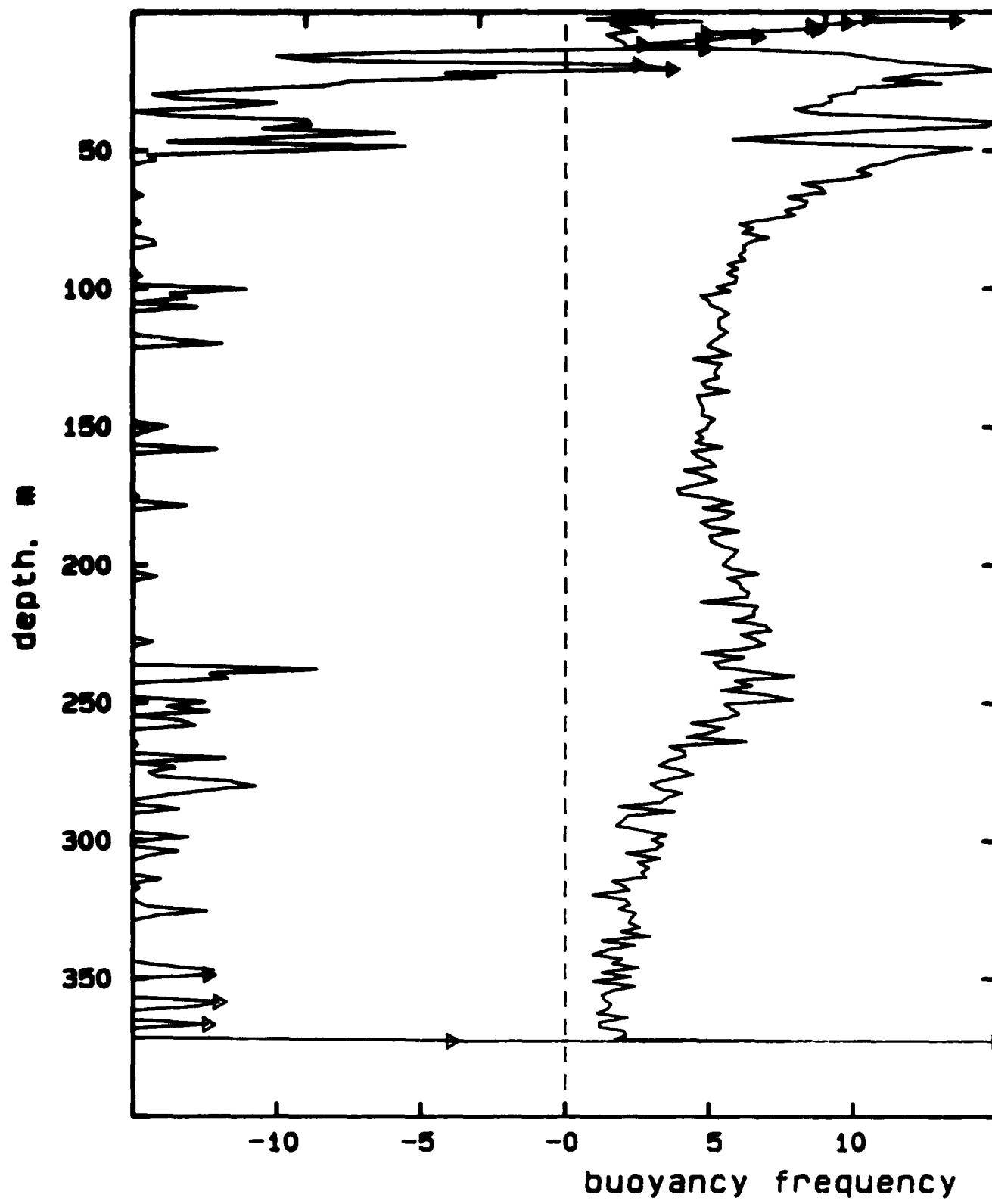
-5 -4 -3 -2



DA4248.006

log (dissipation rate) [cgs]

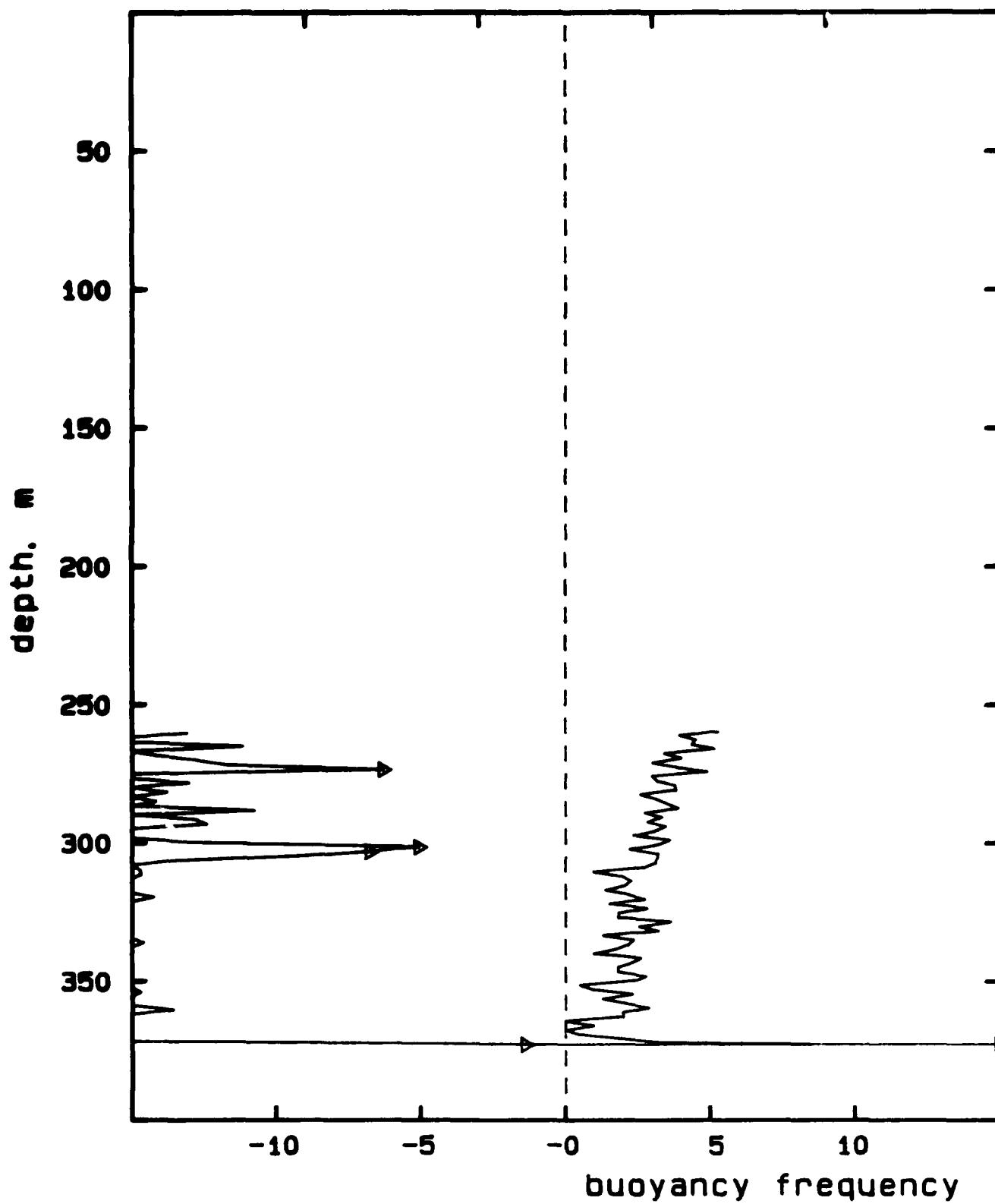
-5 -4 -3 -2



DA424D.002

log (dissipation rate) [cgs]

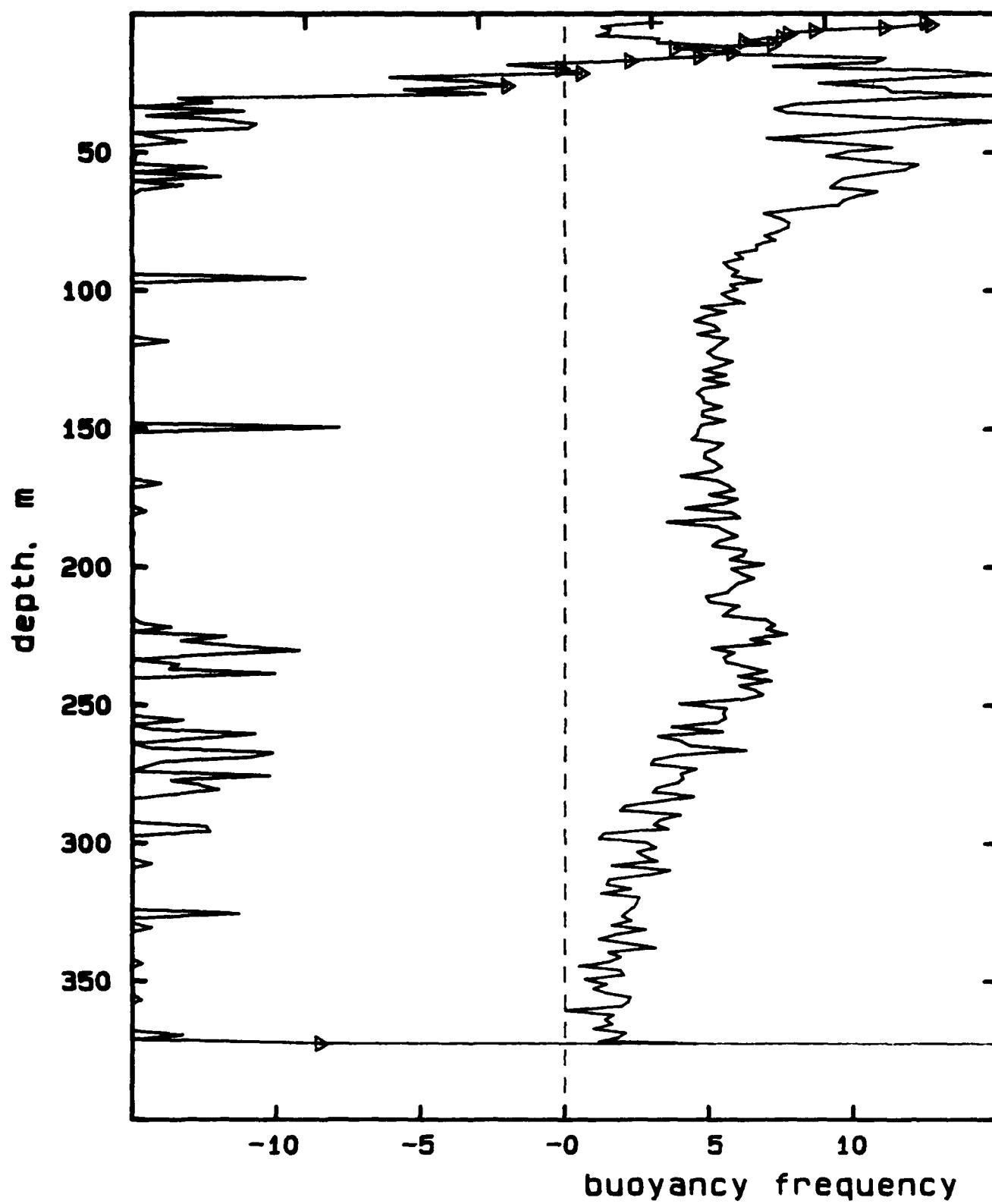
-5 -4 -3 -2



DA424D.004

log (dissipation rate) [cgs]

-5 -4 -3 -2

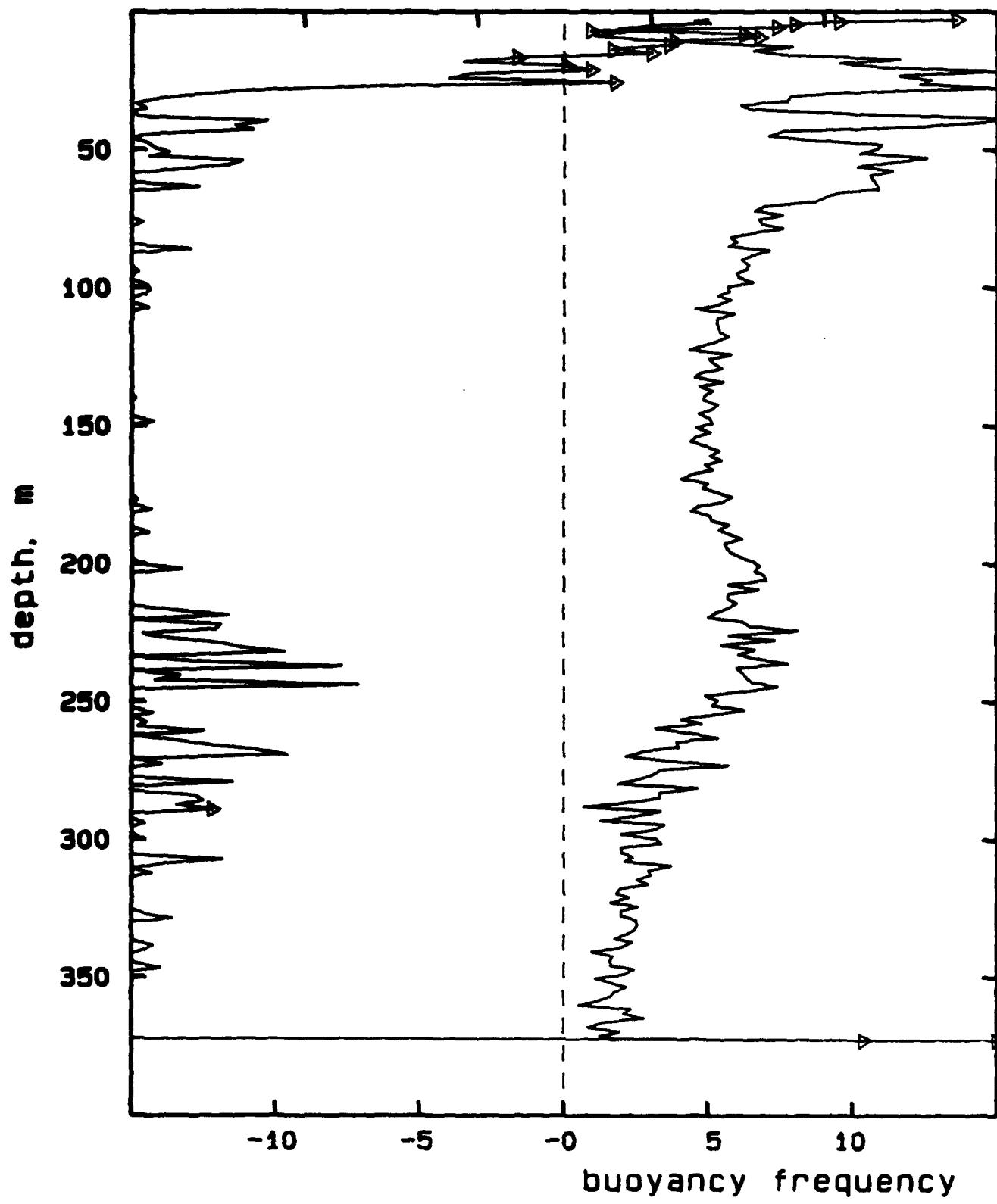


375

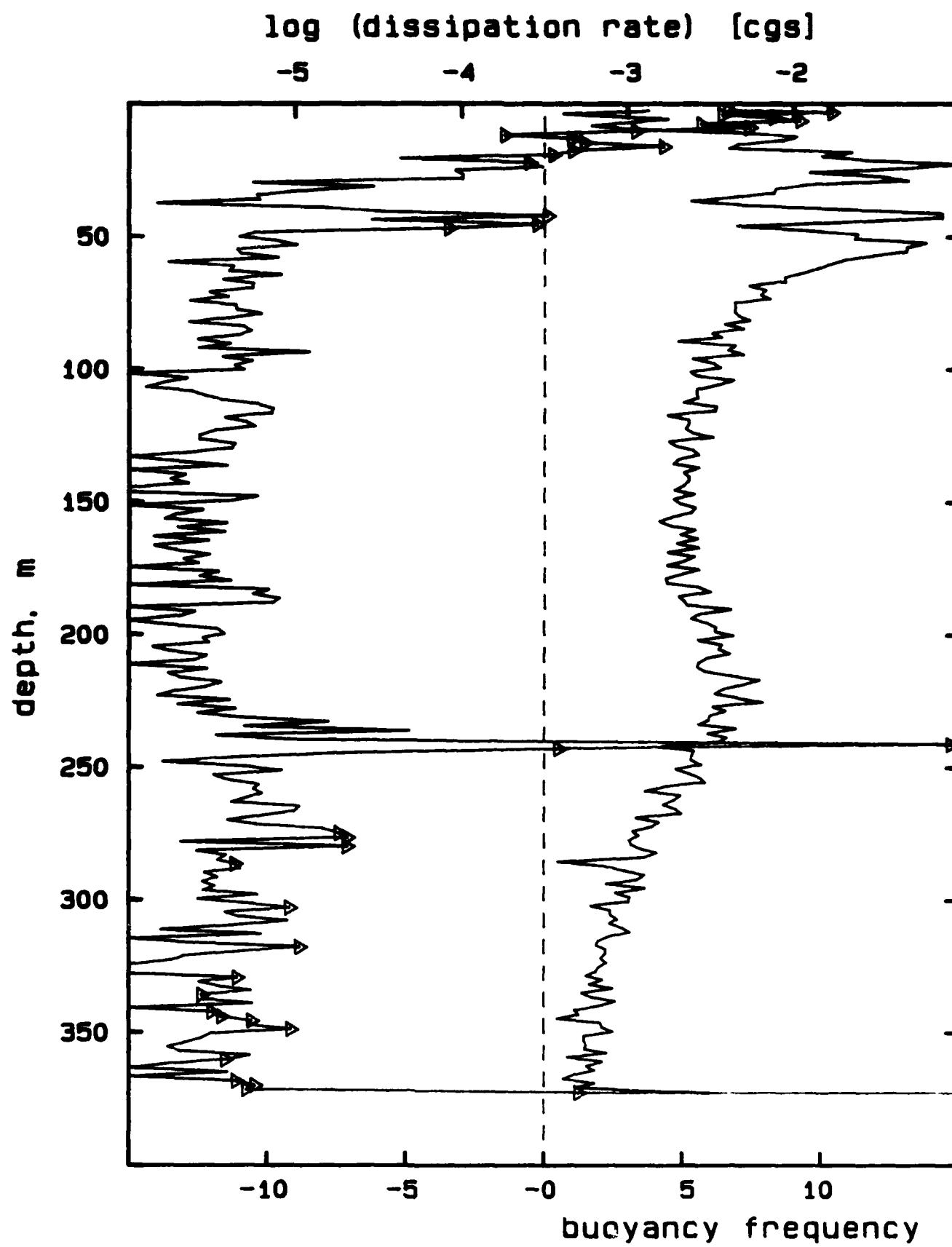
DA424E.001

log (dissipation rate) [cgs]

-5 -4 -3 -2



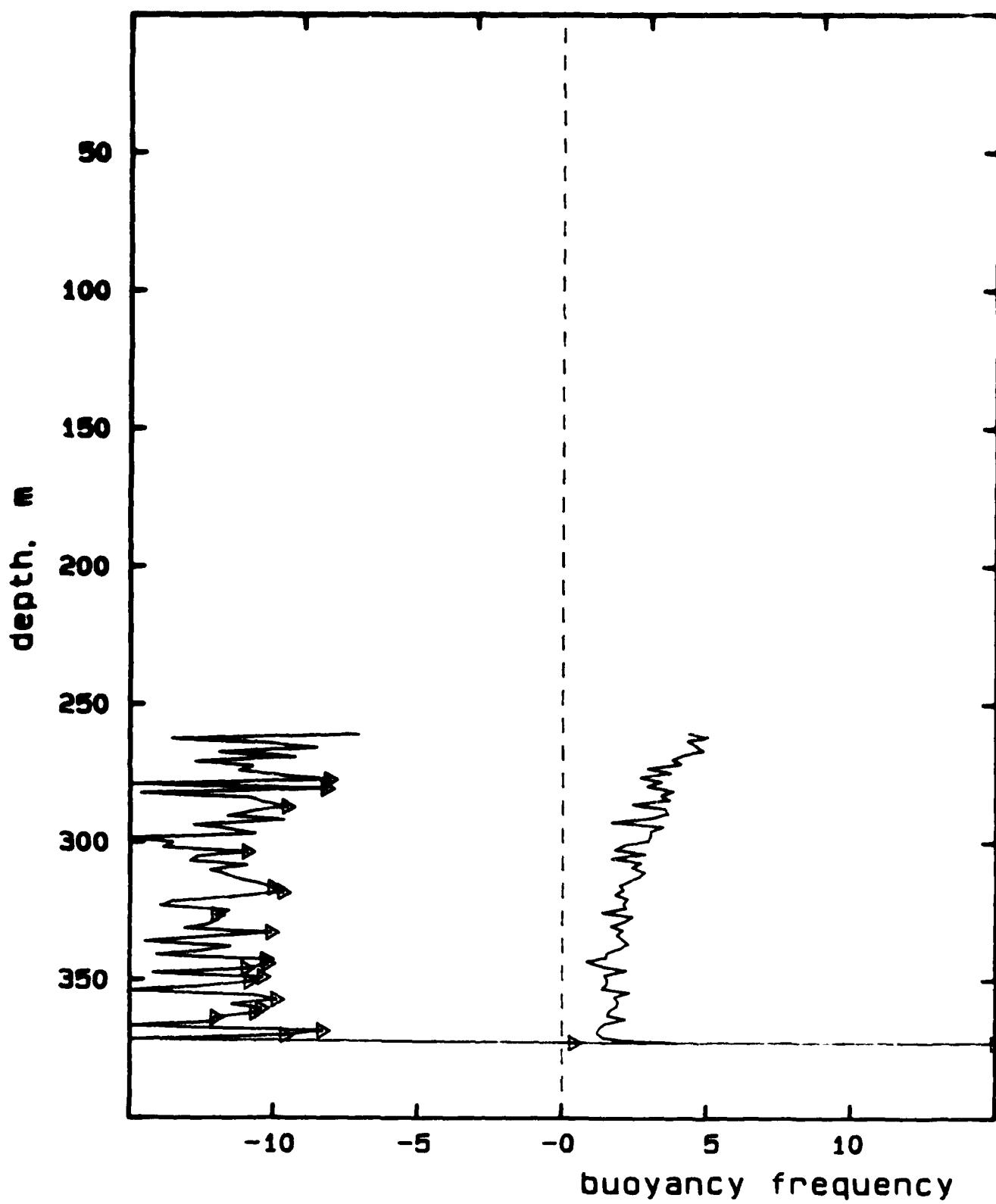
DA424F.001



DA424F.002

log (dissipation rate) [cgs]

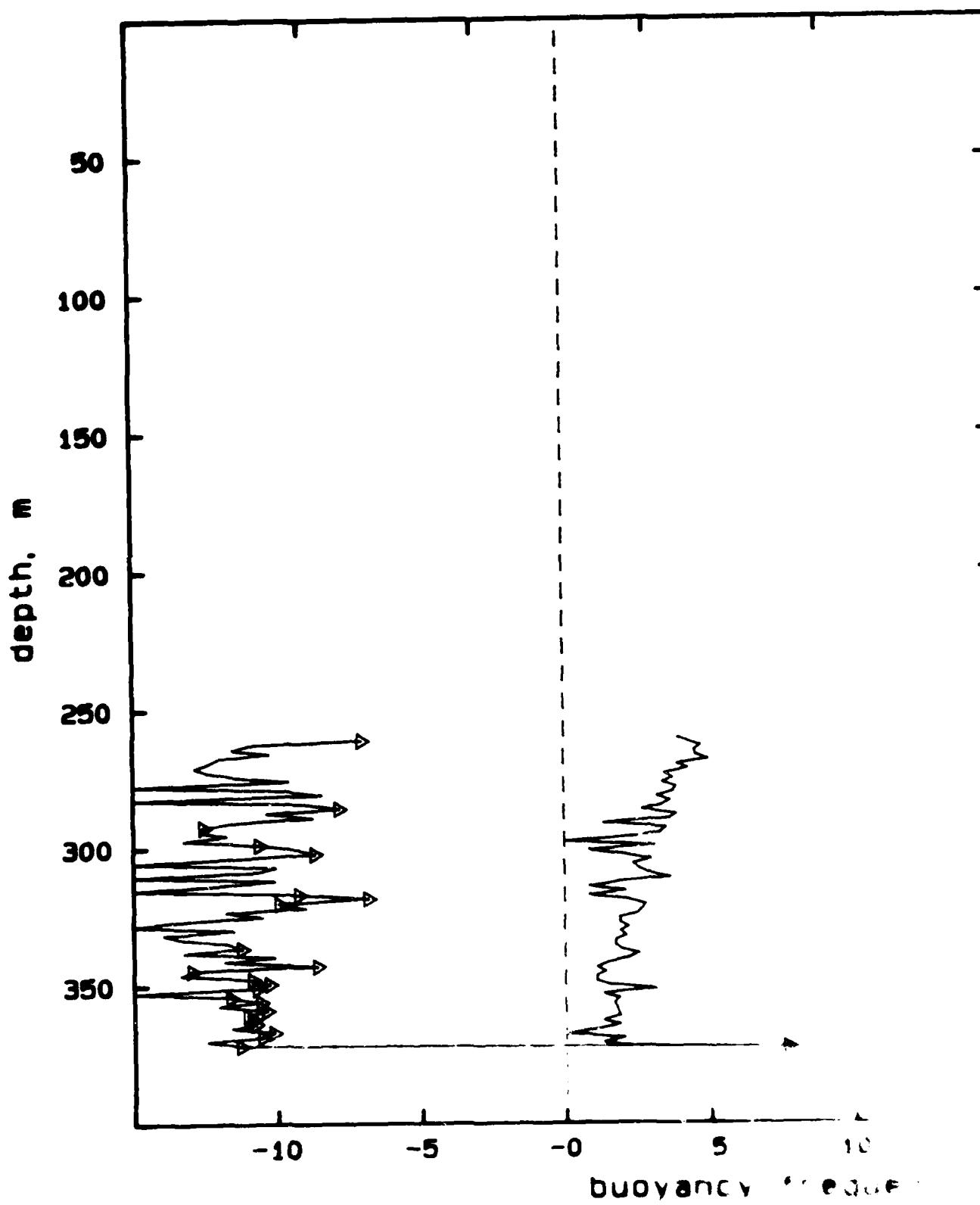
-5 -4 -3 -2



DA424F.003

log (dissipation rate) [cgs]

-5      -4      -3      -2



RD-A101 764

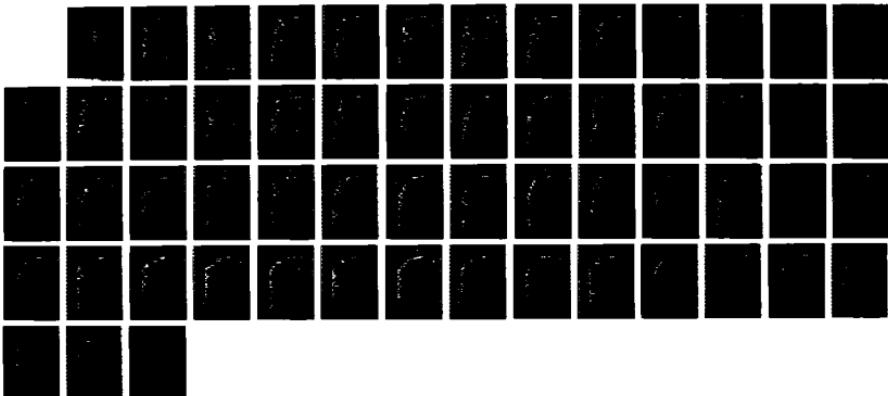
MICROSTRUCTURE CASTS DURING AIHEX (ARCTIC INTERNAL WAVE  
EXPERIMENT) A SUMMARY (U) OREGON STATE UNIV CORVALLIS  
COLL. OF OCEANOGRAPHY T M DILLON ET AL. APR 85 DATA-122  
N00014-84-C-0218

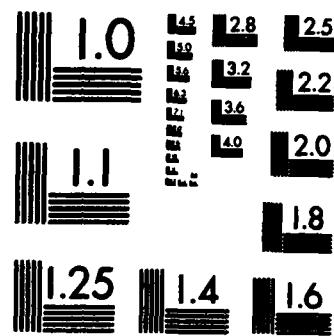
5/5

UNCLASSIFIED

F/G 8/3

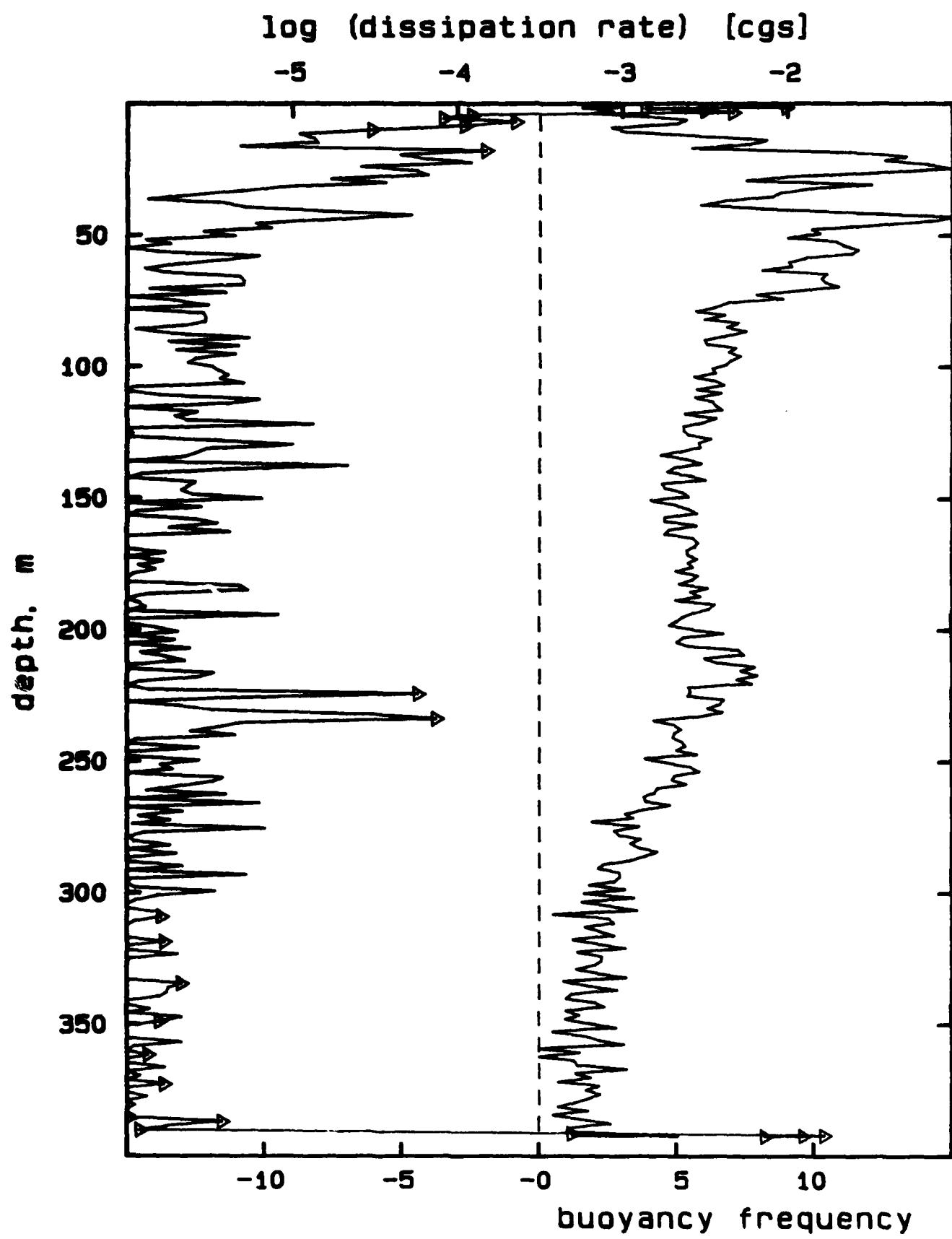
NL





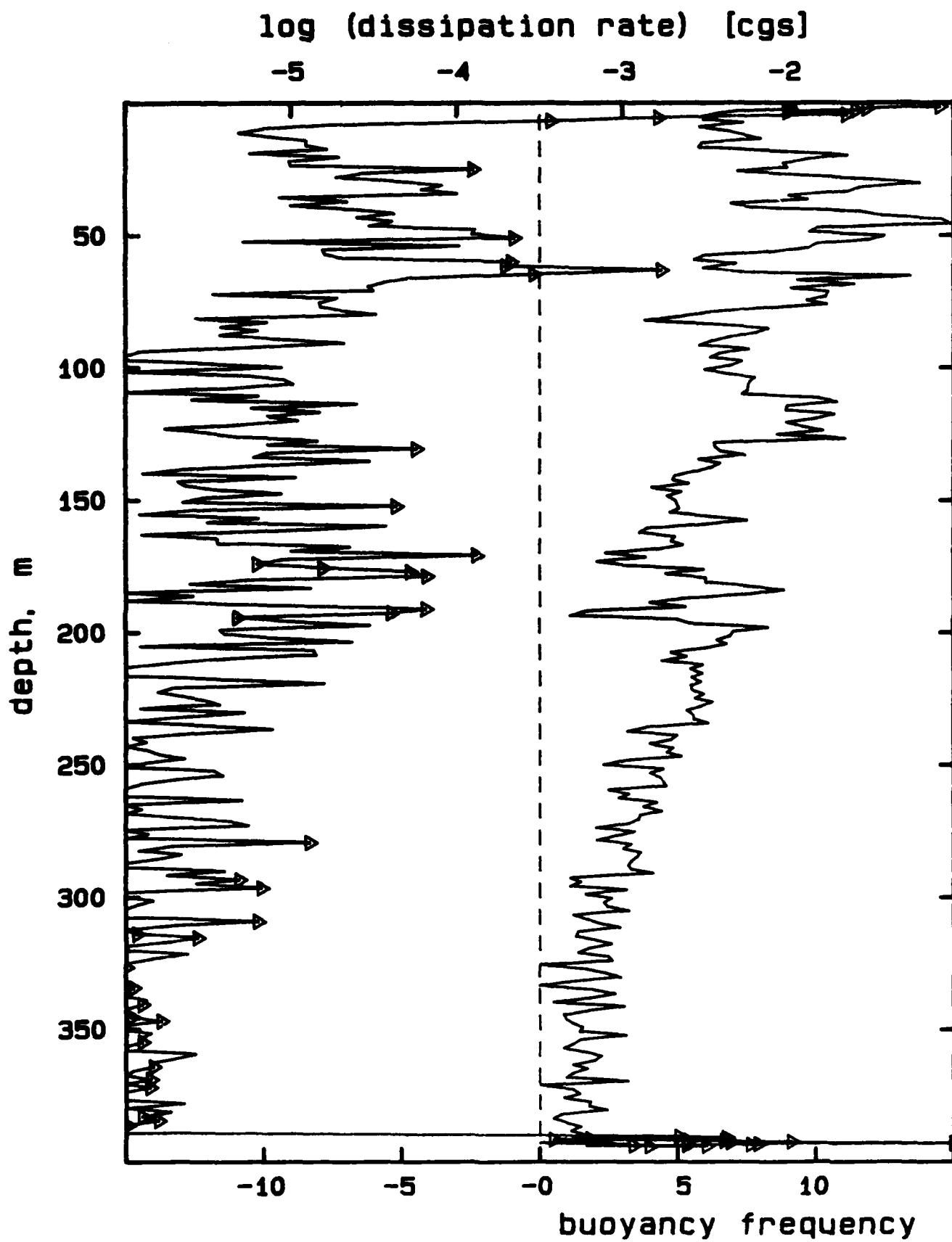
MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

DA424G.001



380

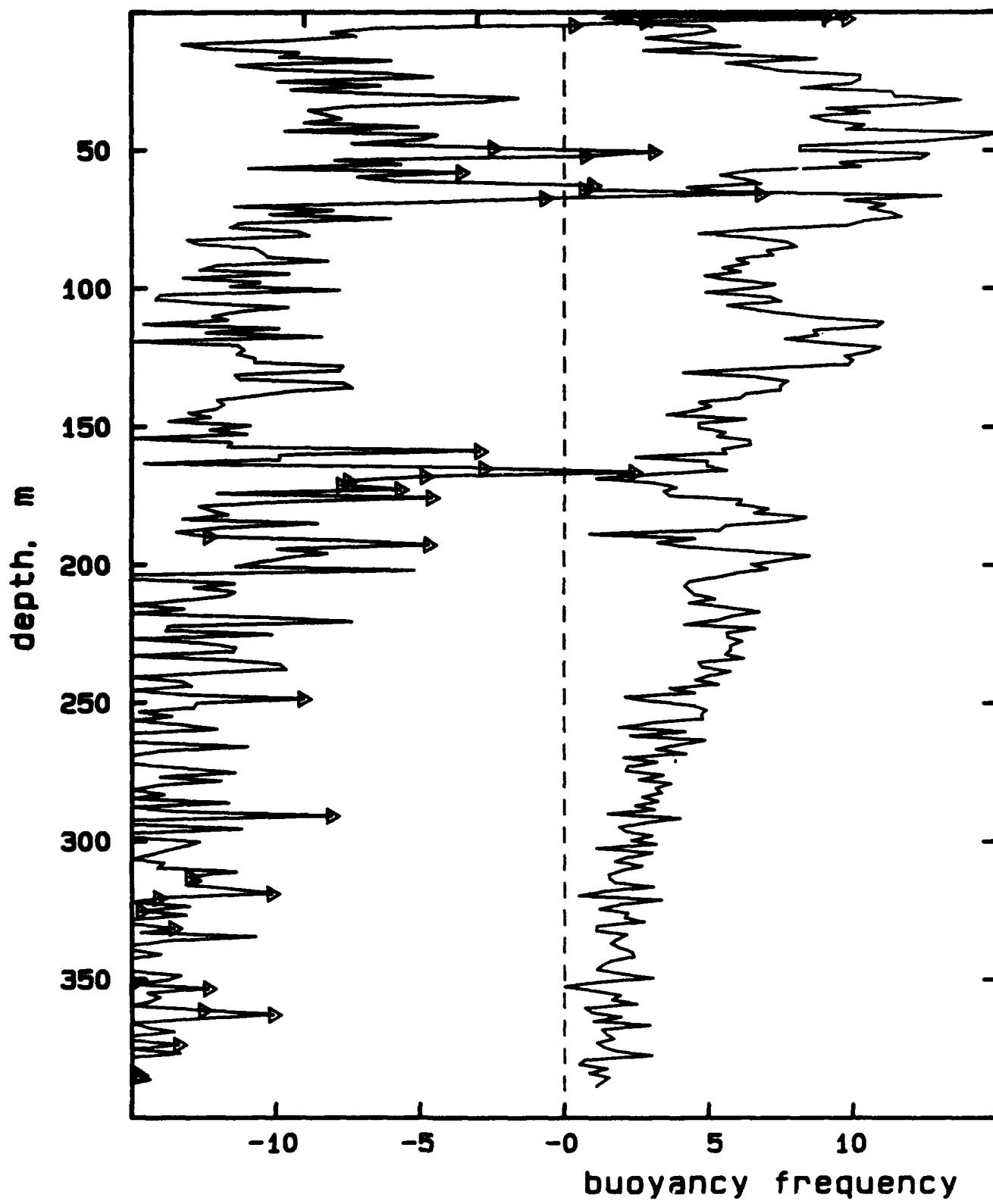
DA425A.001



DA425A.002

log (dissipation rate) [cgs]

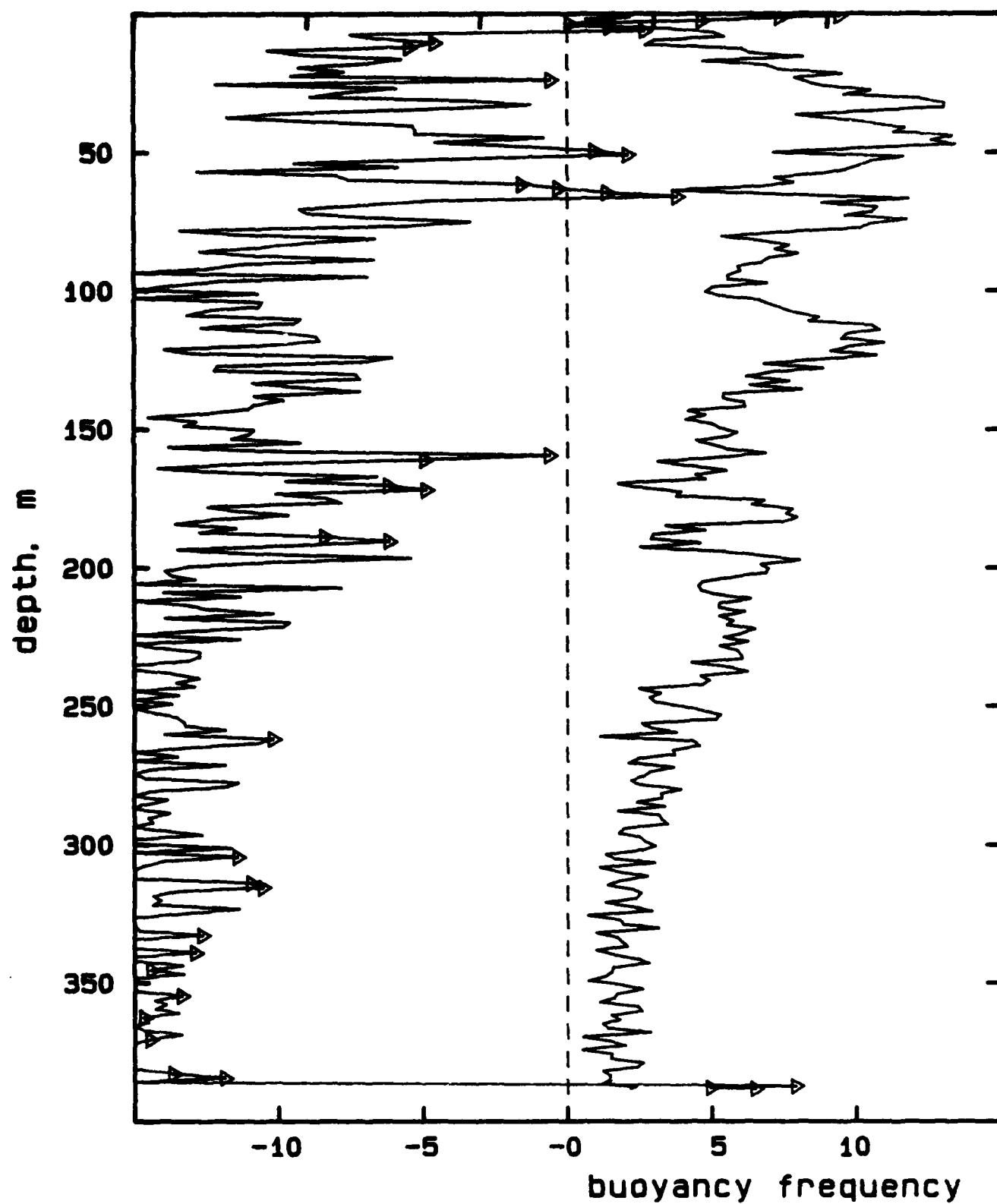
-5 -4 -3 -2



DA425A.003

log (dissipation rate) [cgs]

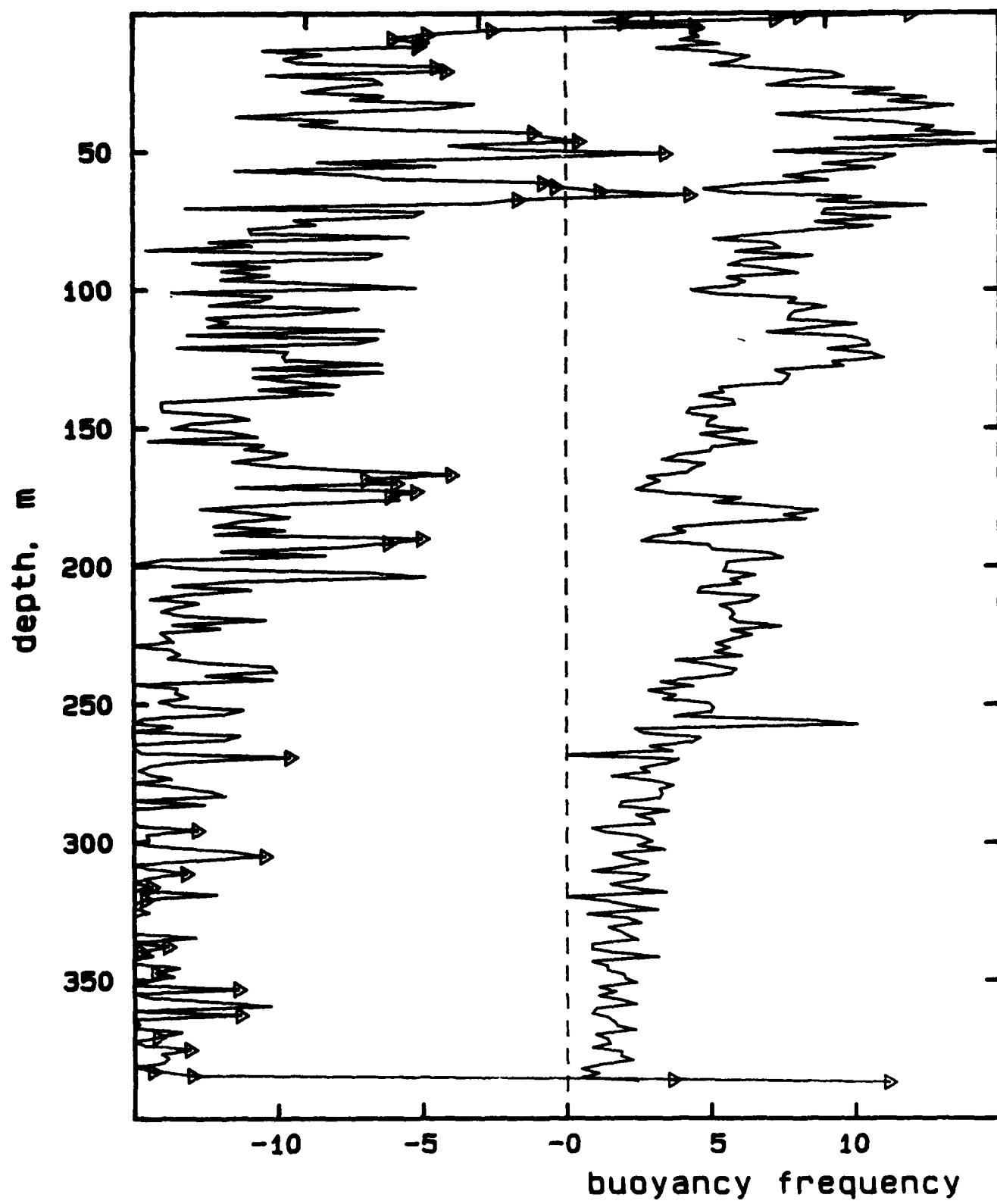
-5      -4      -3      -2



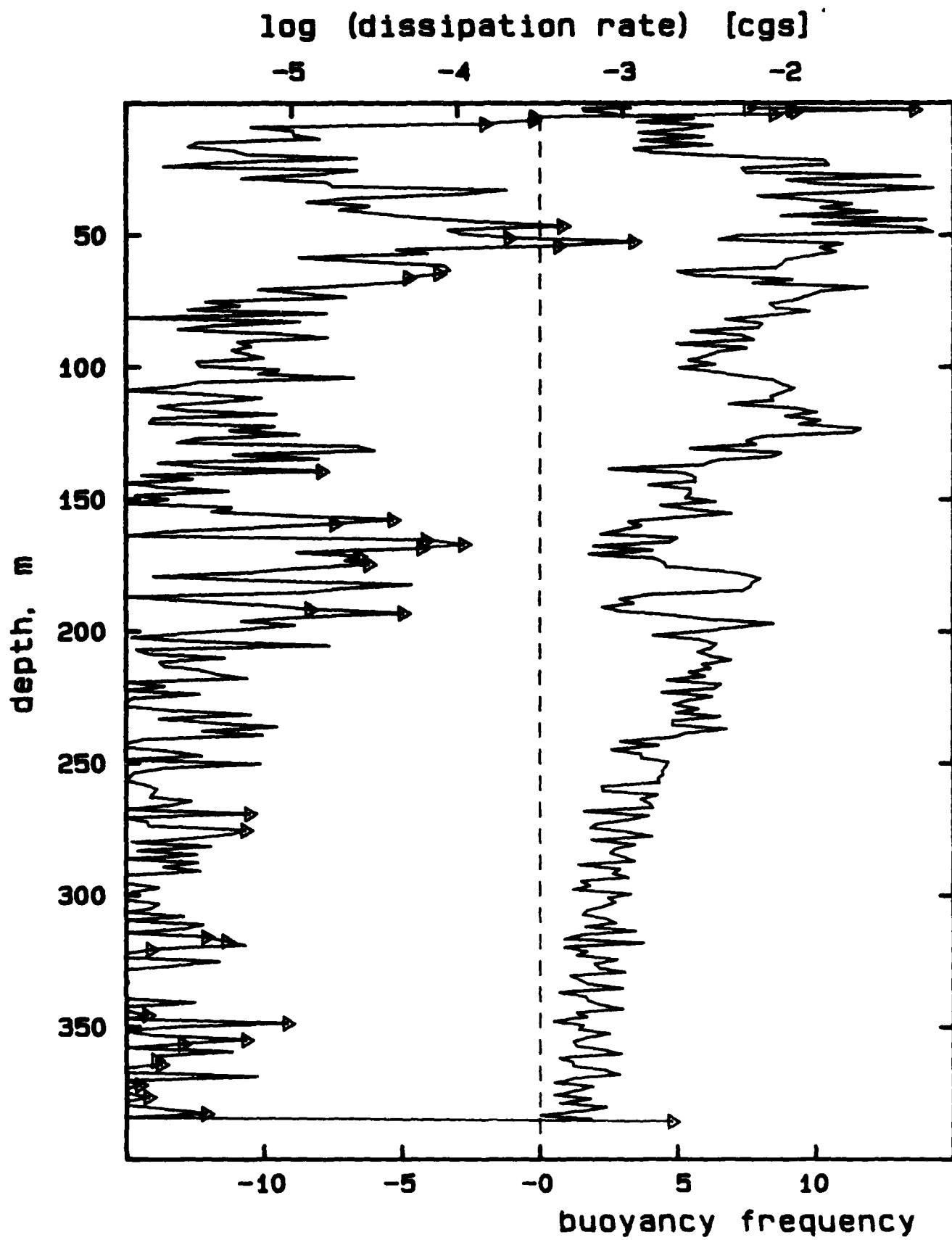
DA425A.004

log (dissipation rate) [cgs]

-5      -4      -3      -2



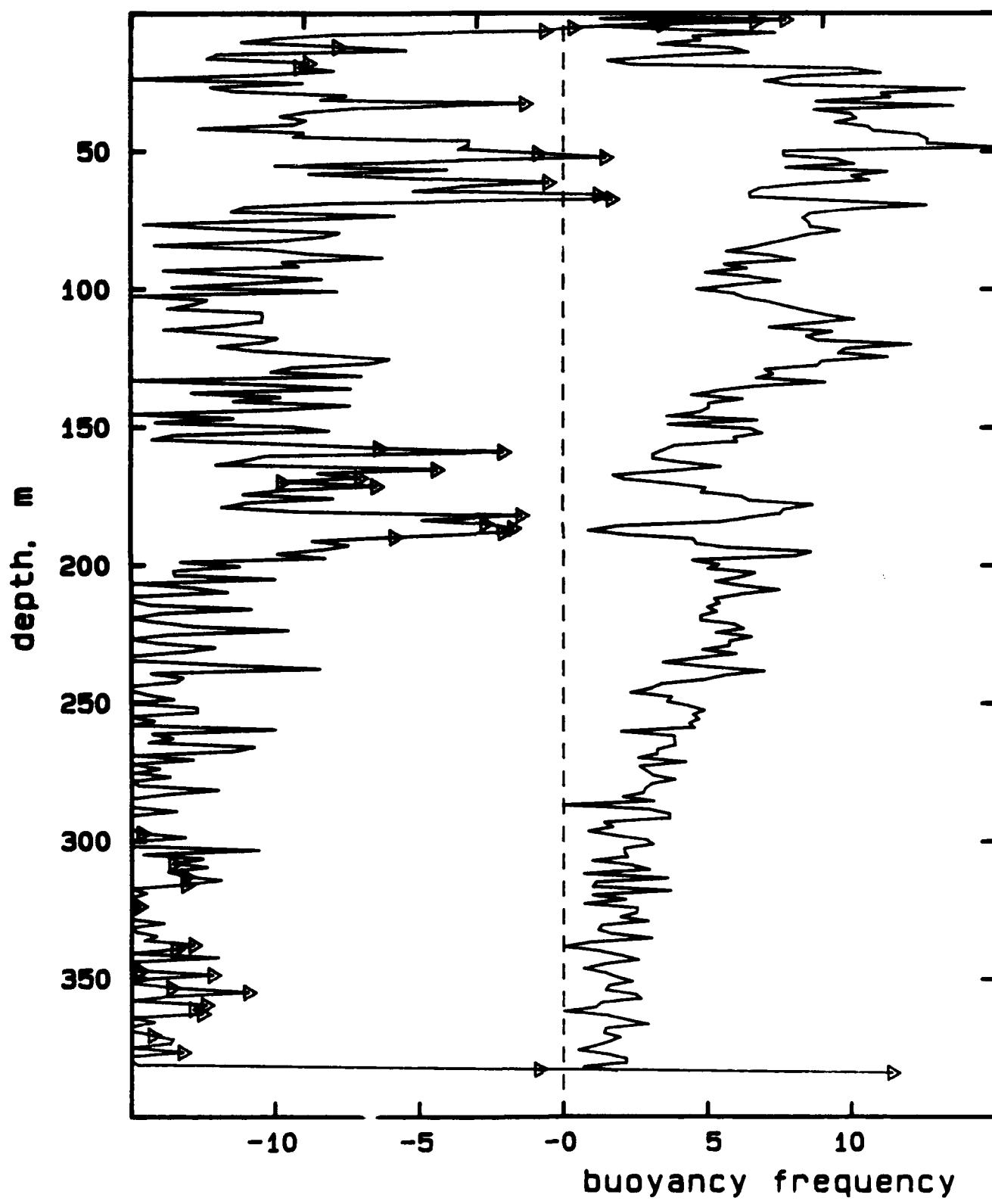
DA425A.005

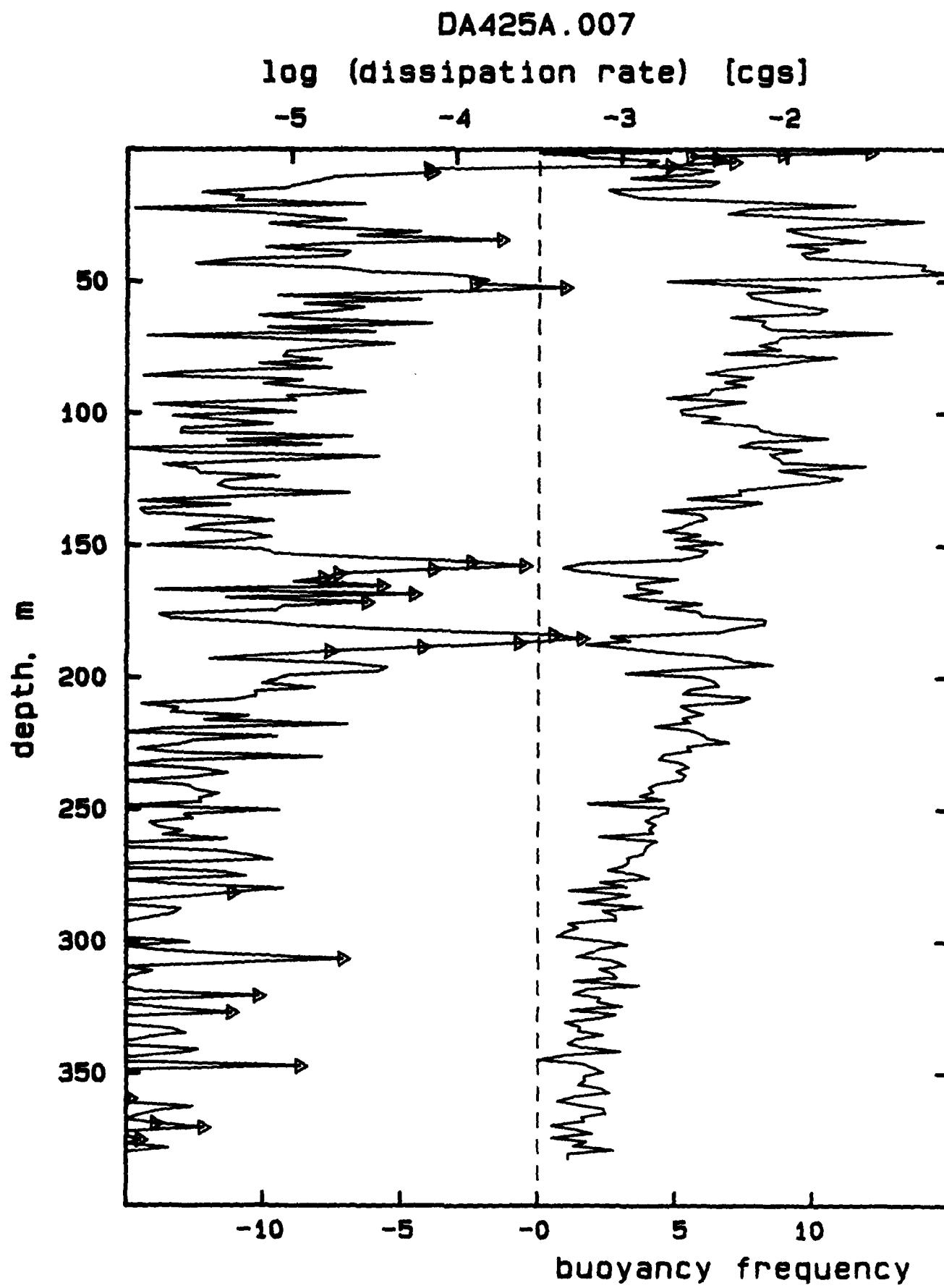


DA425A.006

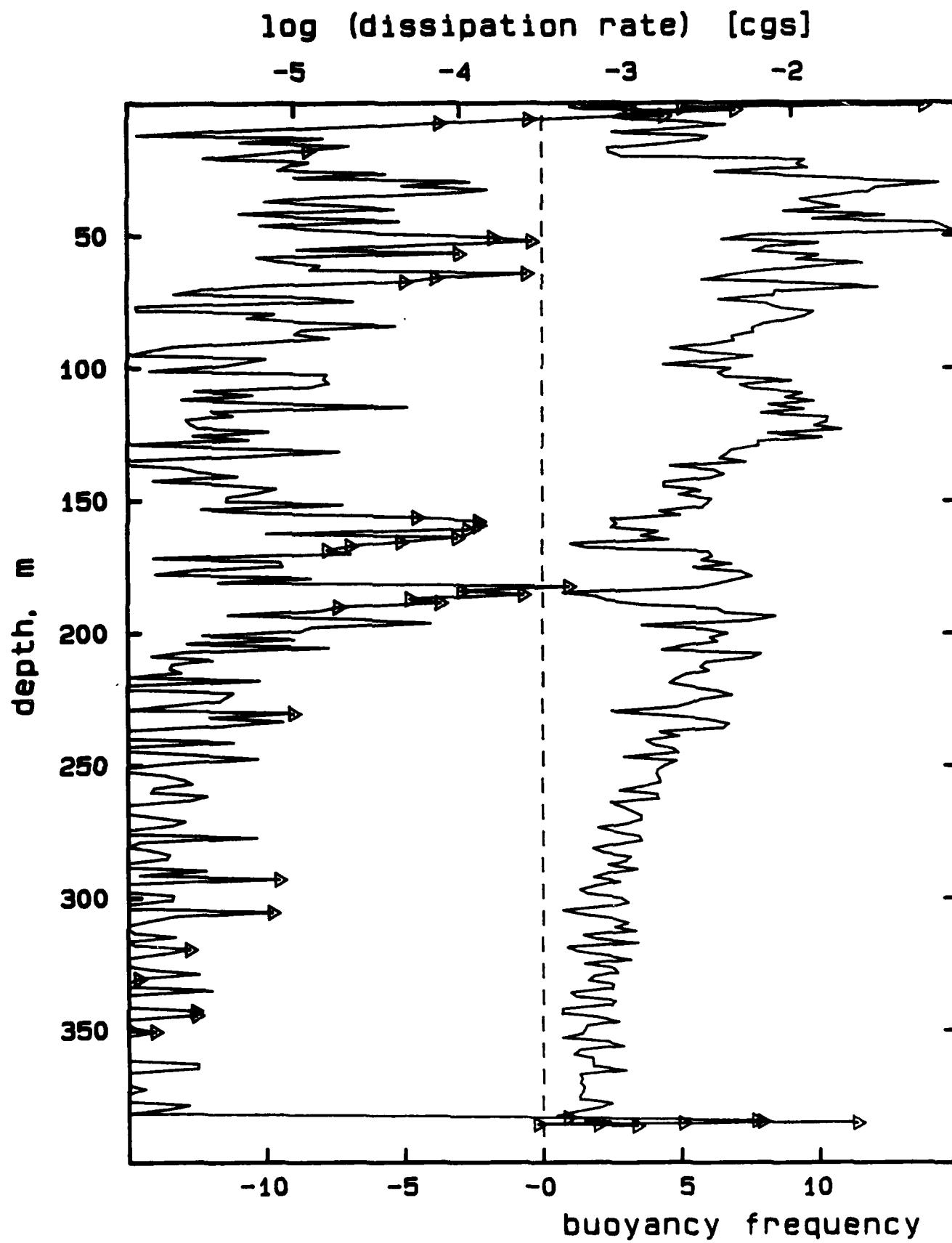
log (dissipation rate) [cgs]

-5      -4      -3      -2

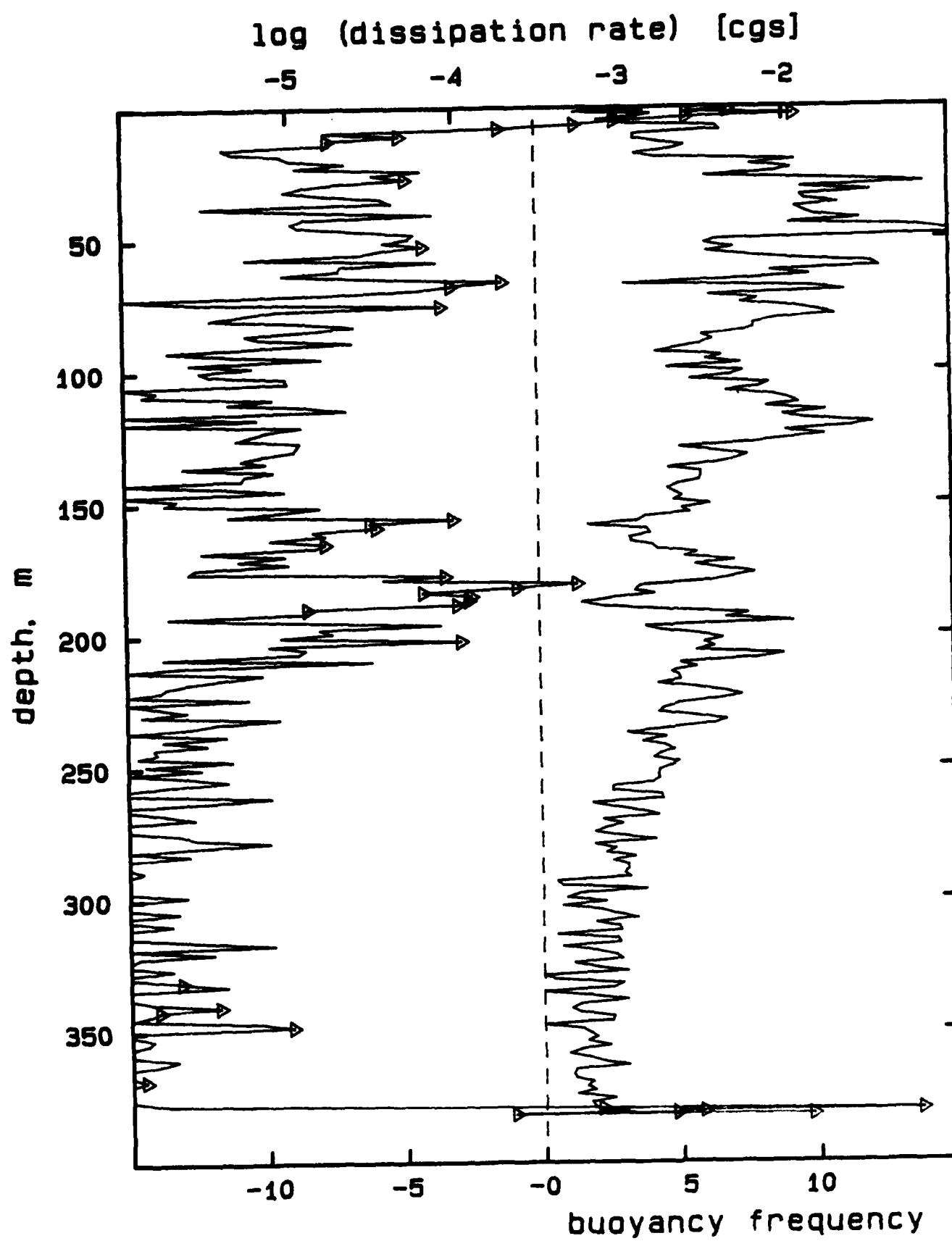




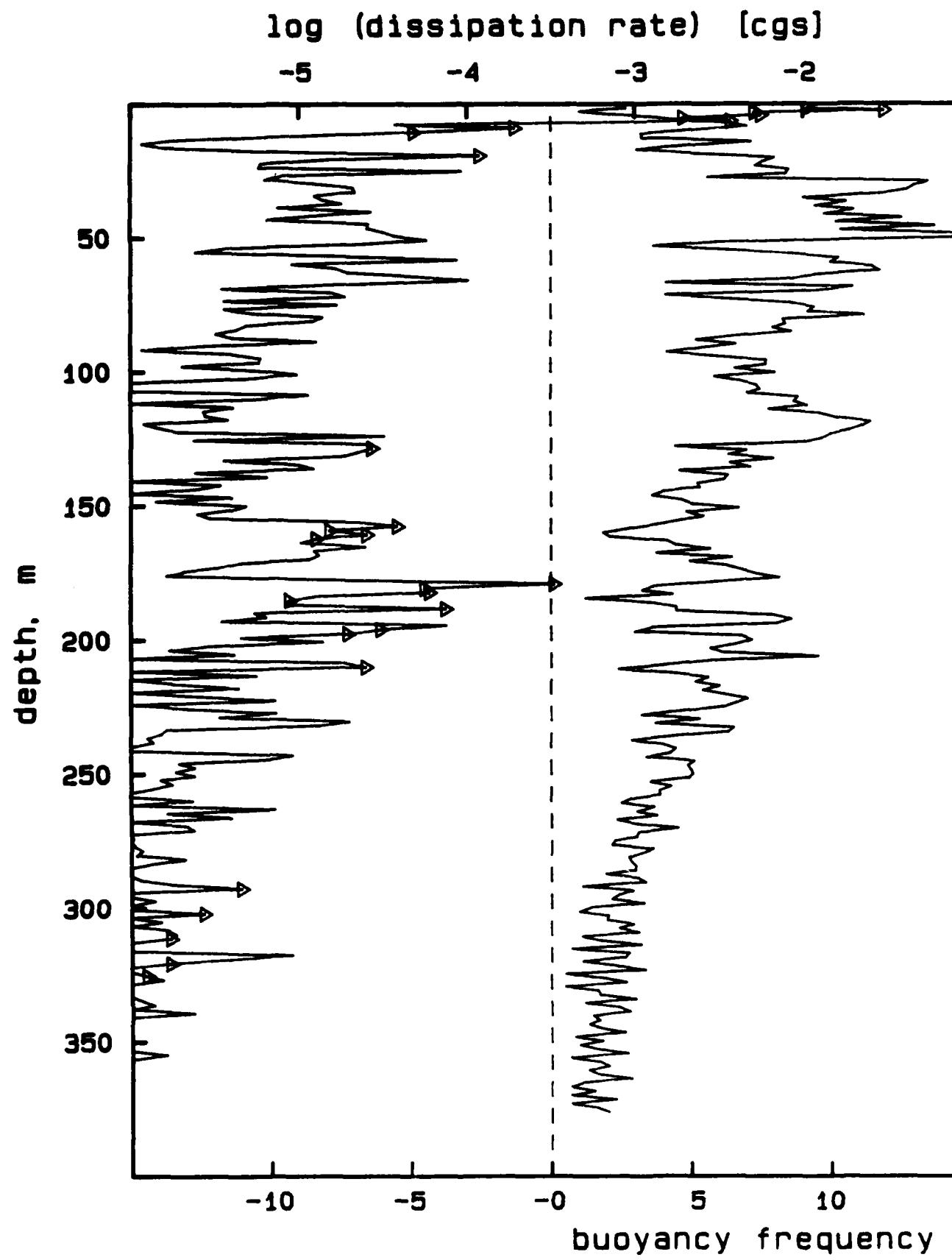
DA425B.001



DA425B.002



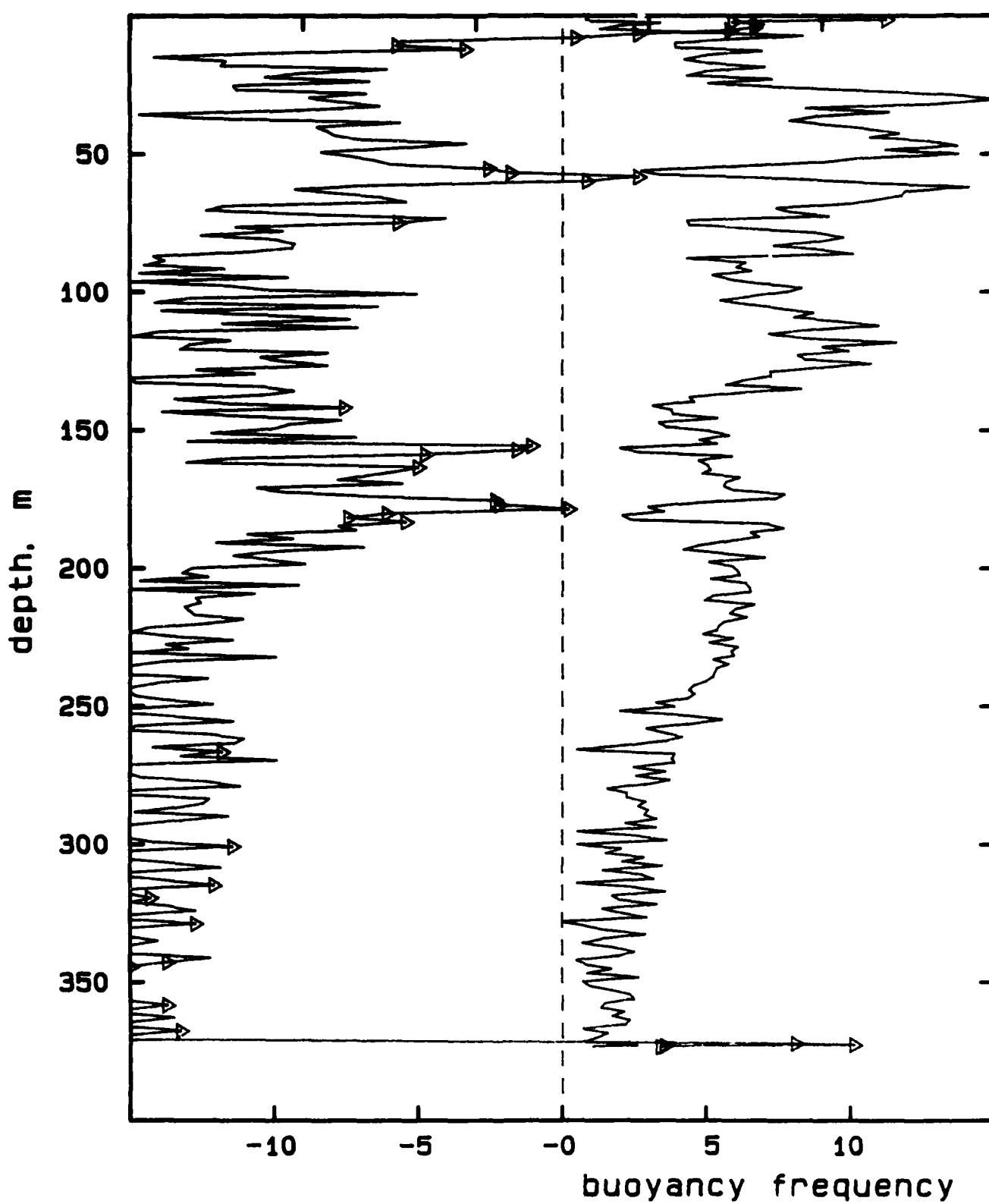
DA4258.003



DA425B.006

log (dissipation rate) [cgs]

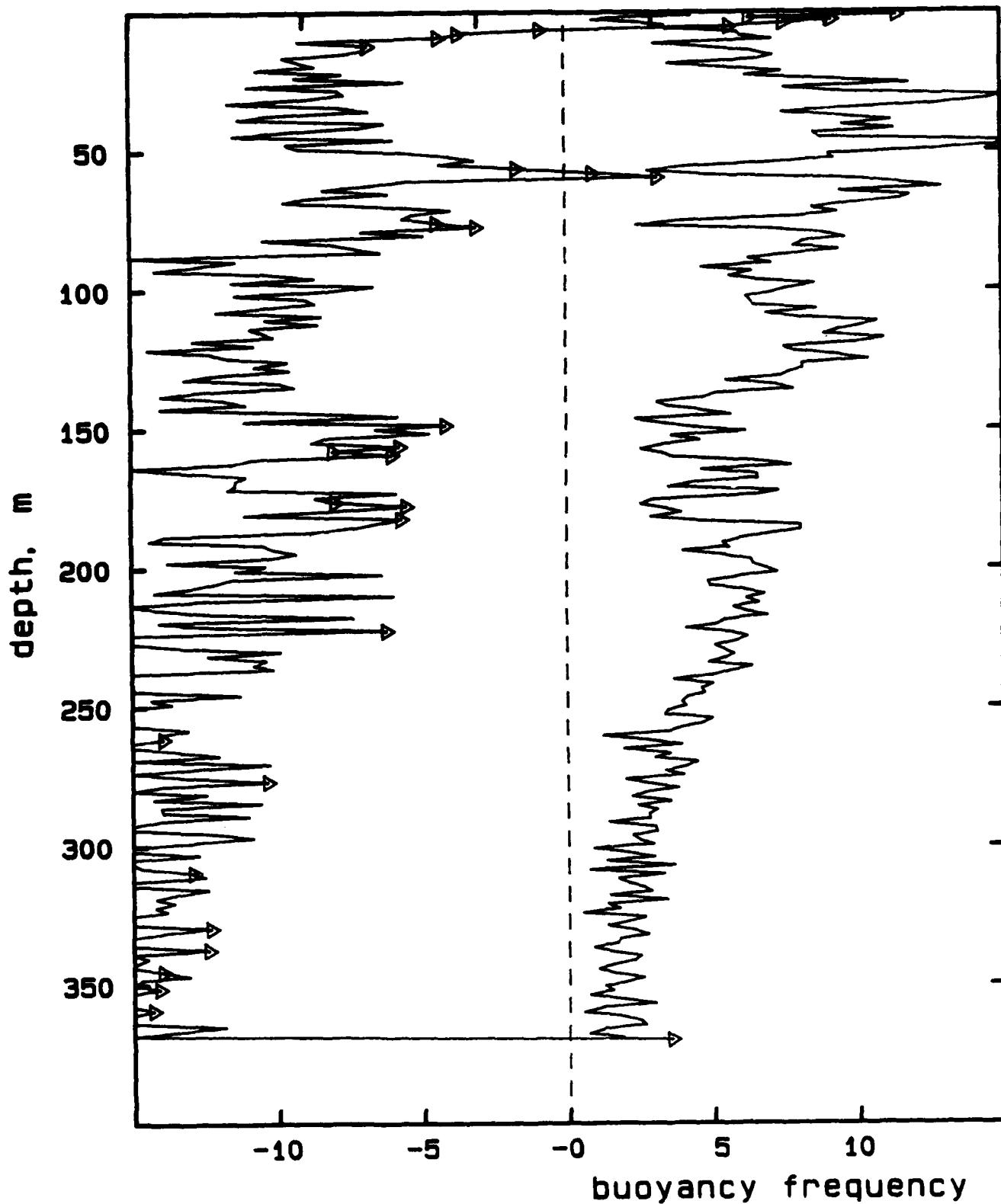
-5      -4      -3      -2



DA425B.007

log (dissipation rate) [cgs]

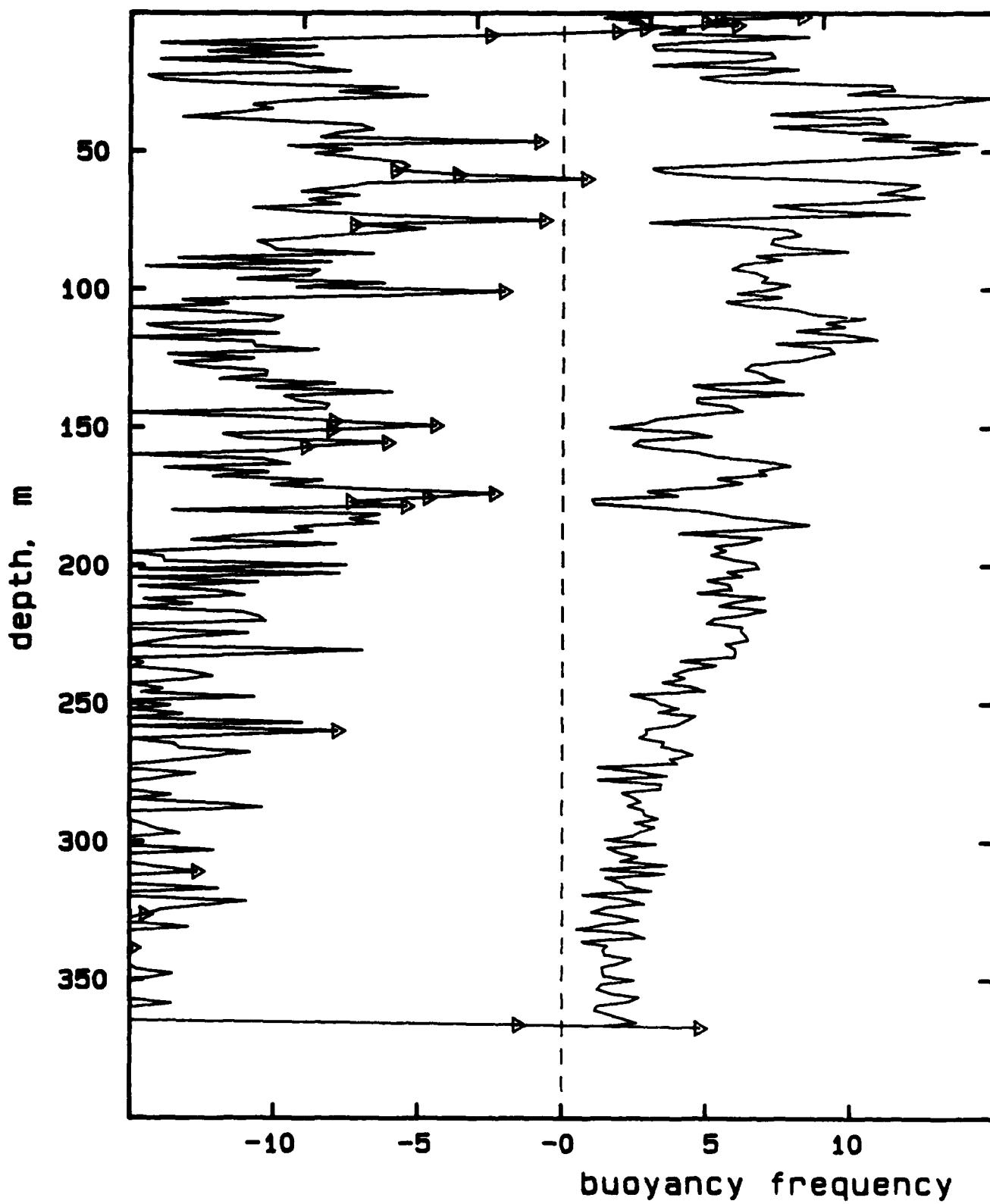
-5      -4      -3      -2



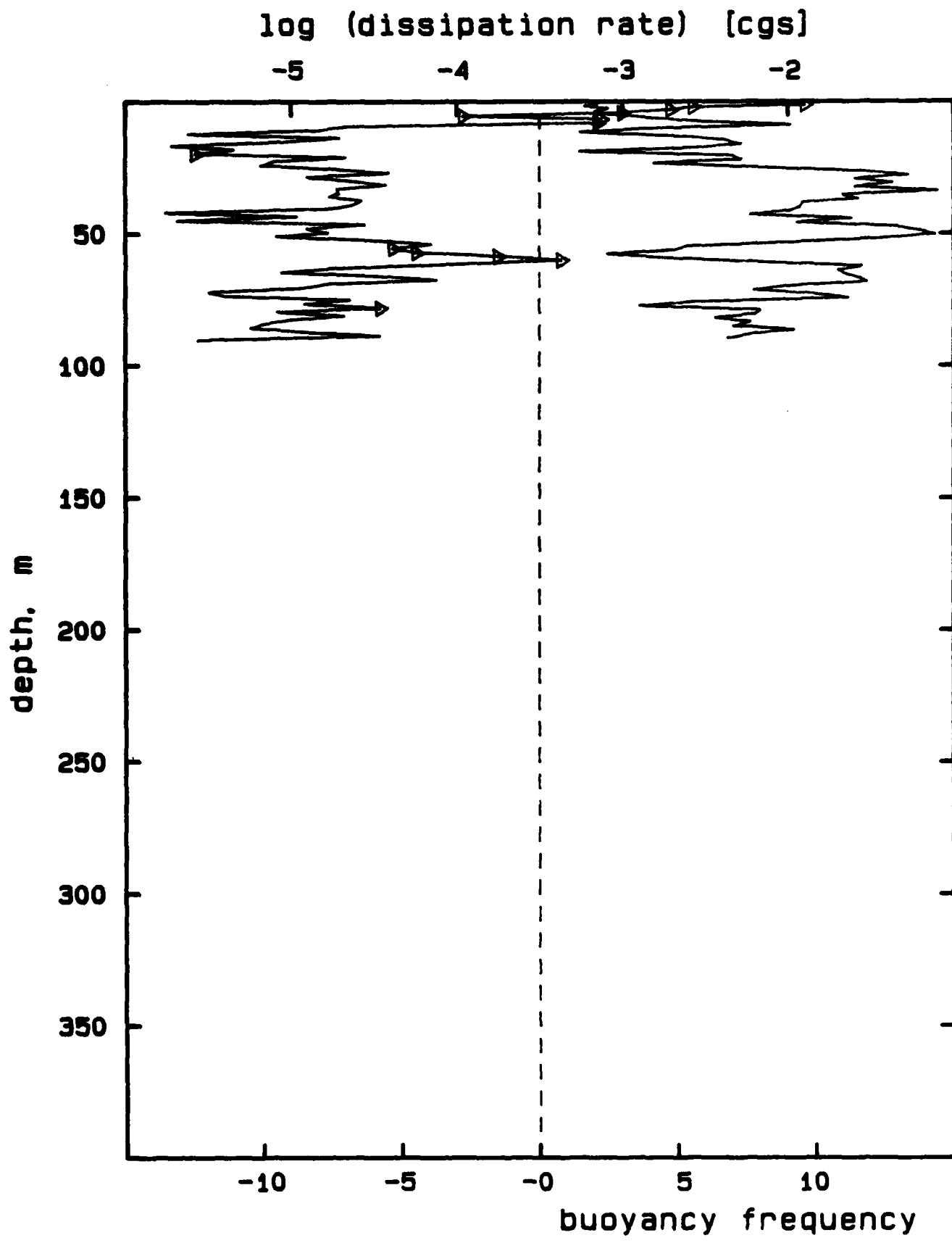
DA425B.008

log (dissipation rate) [cgs]

-5      -4      -3      -2

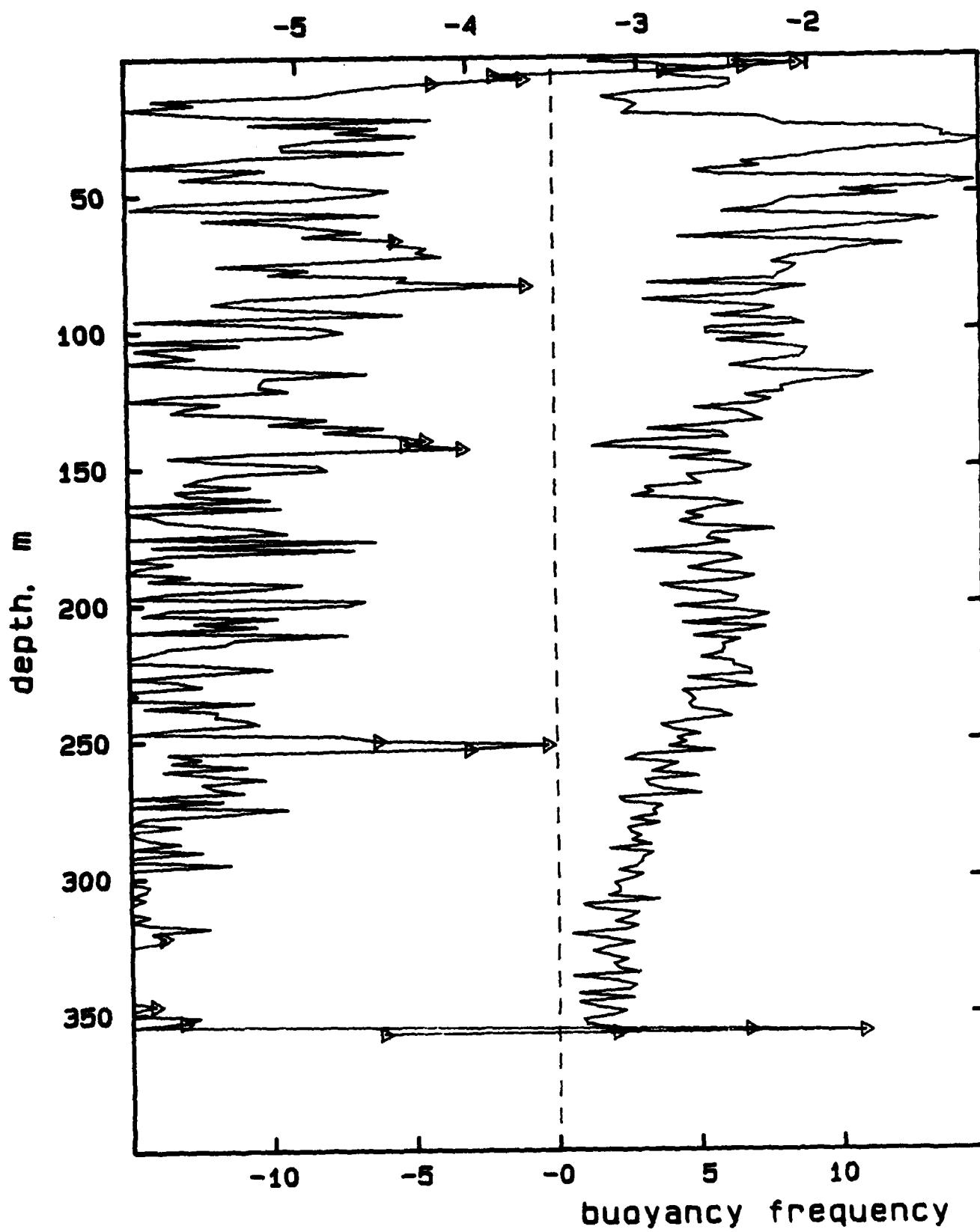


DA425B.009



DA425C.001

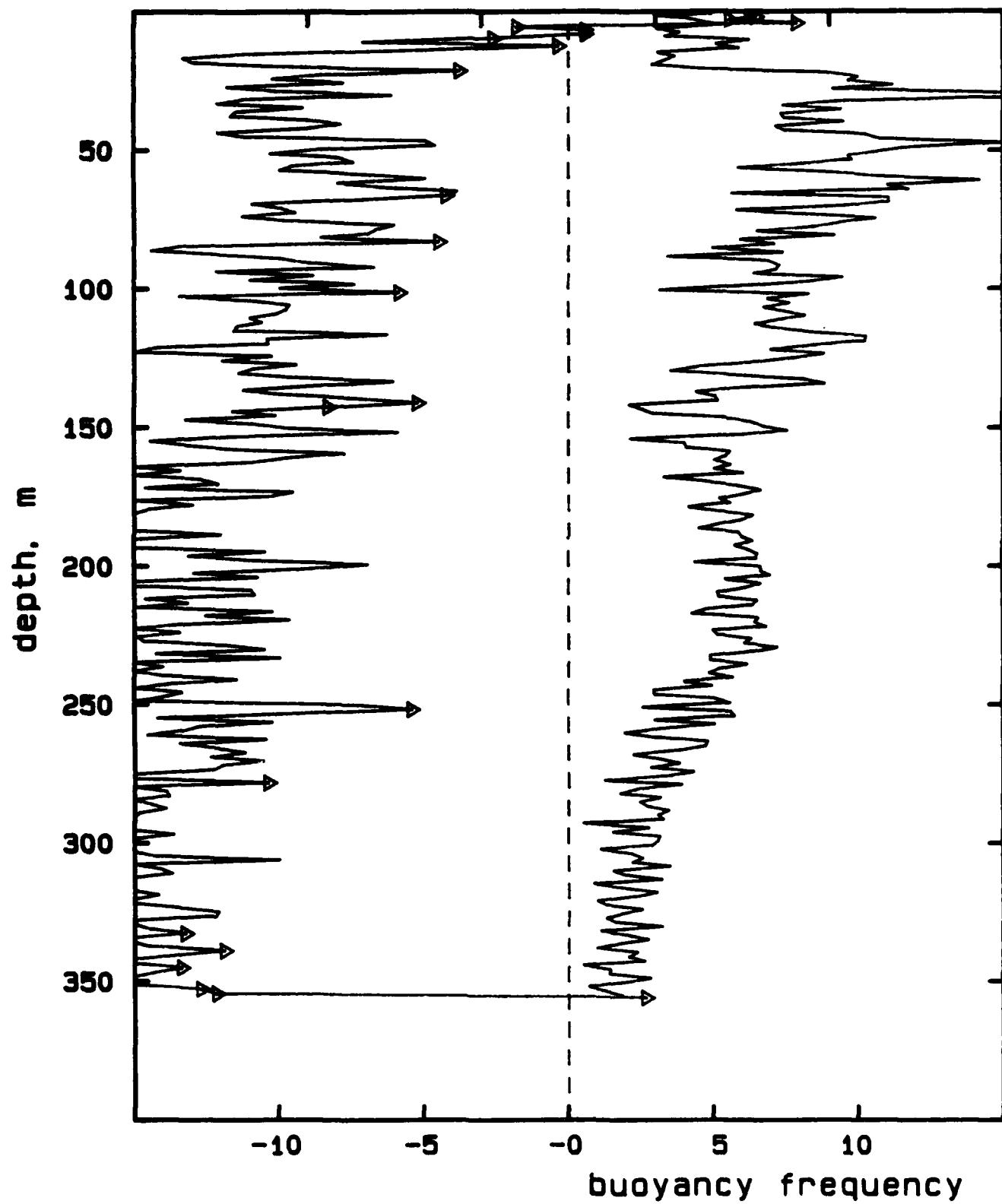
log (dissipation rate) [cgs]



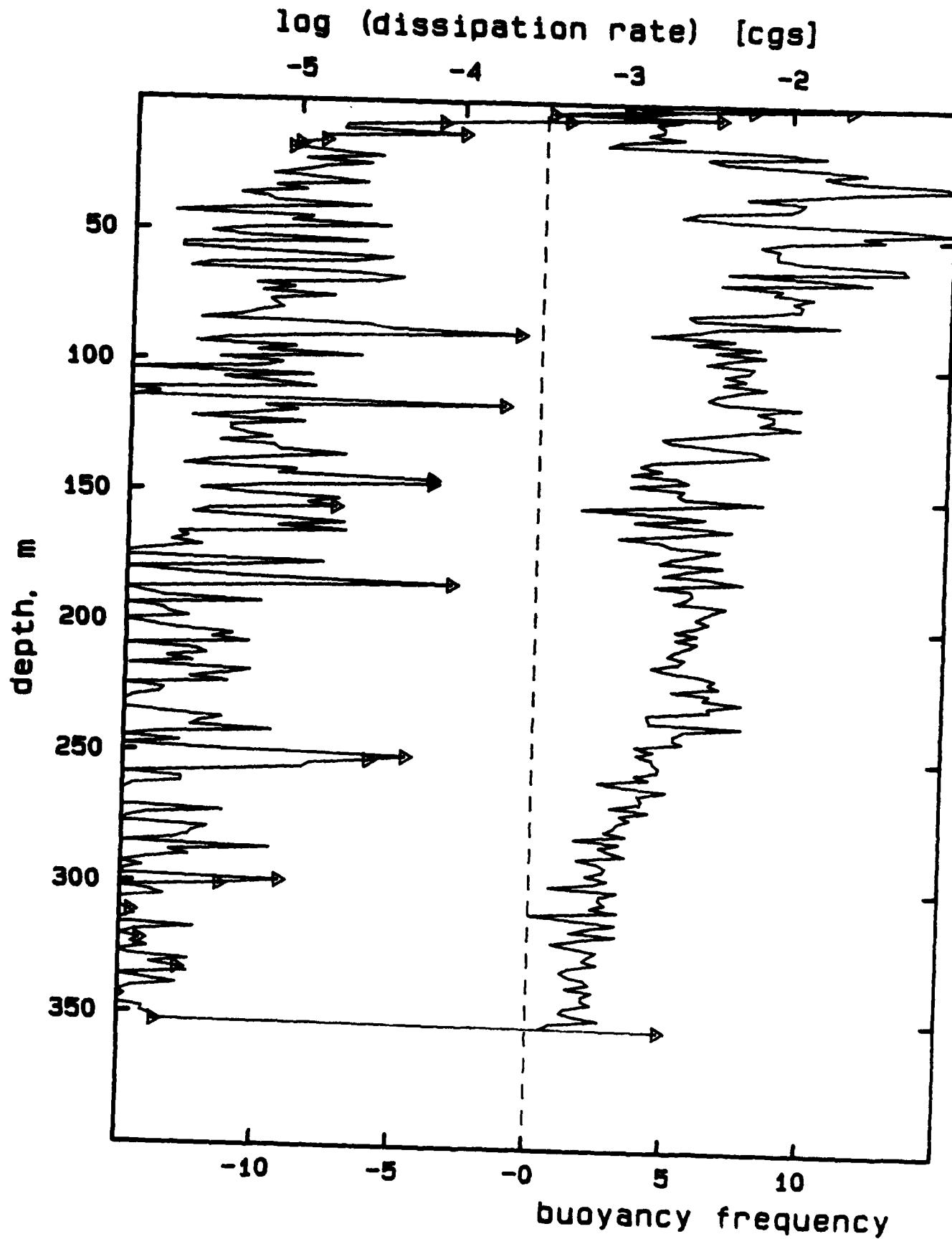
DA425C.002

log (dissipation rate) [cgs]

-5 -4 -3 -2



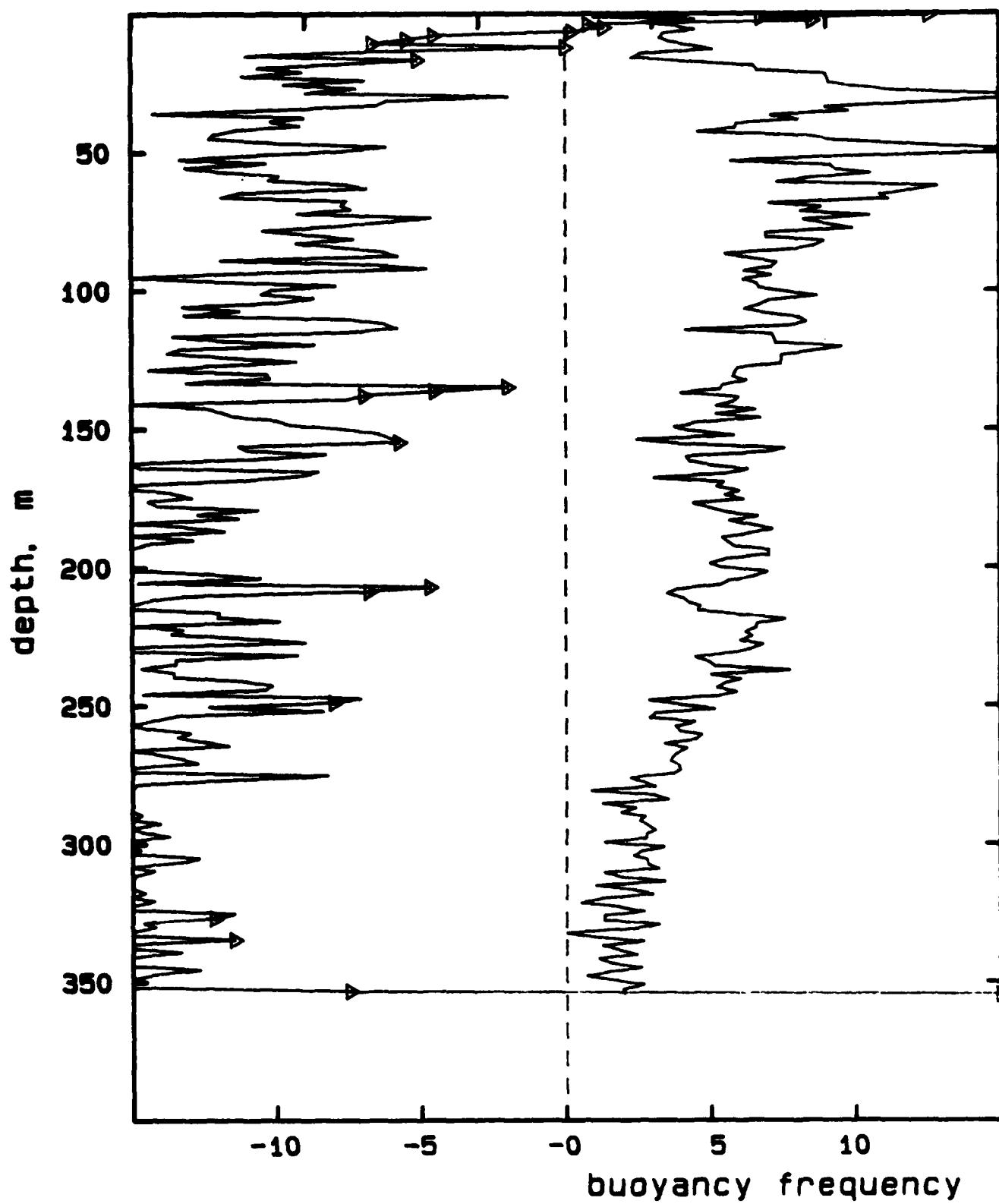
DA425C.003



DA425C.004

log (dissipation rate) [cgs]

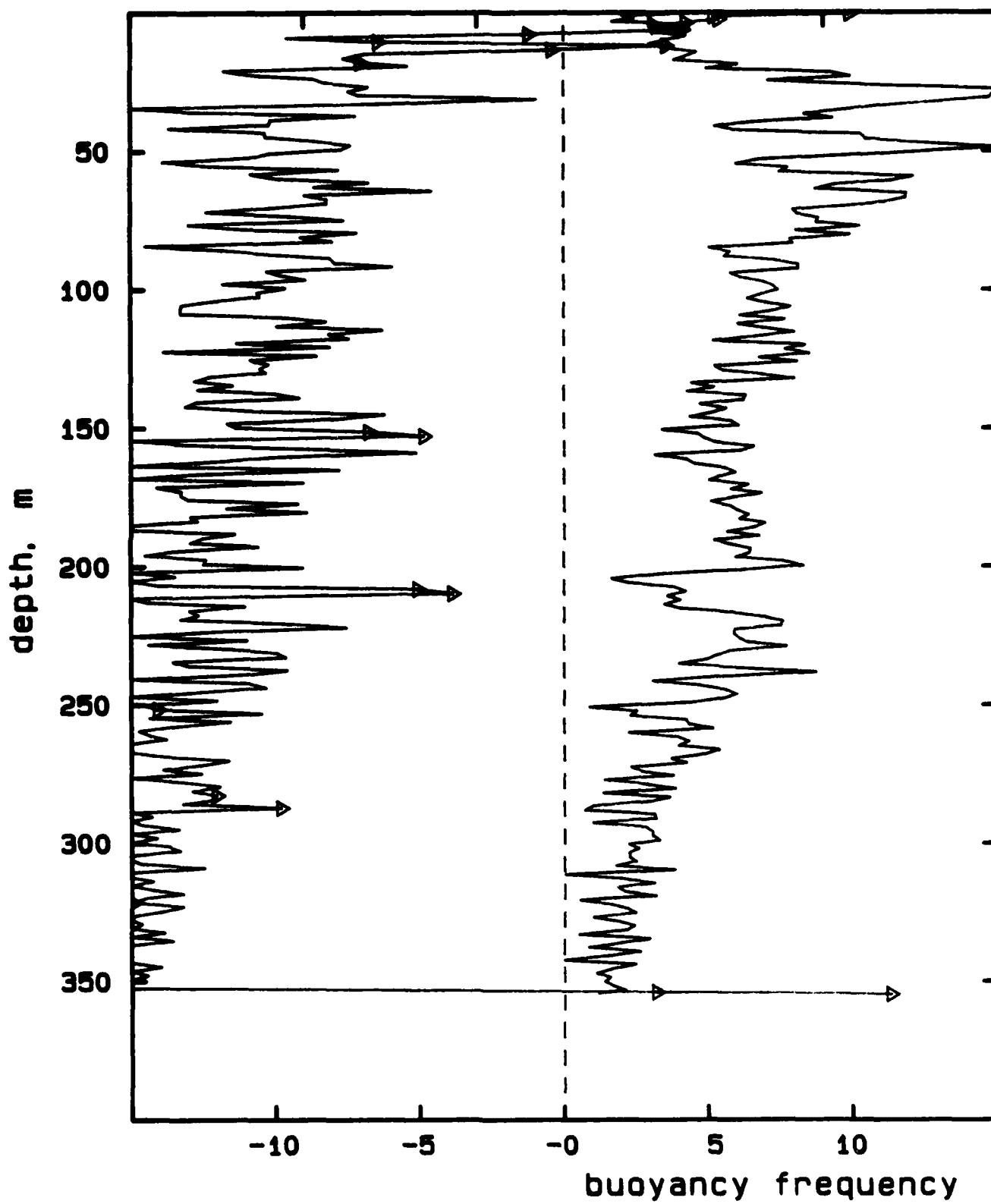
-5 -4 -3 -2



DA425C.005

log (dissipation rate) [cgs]

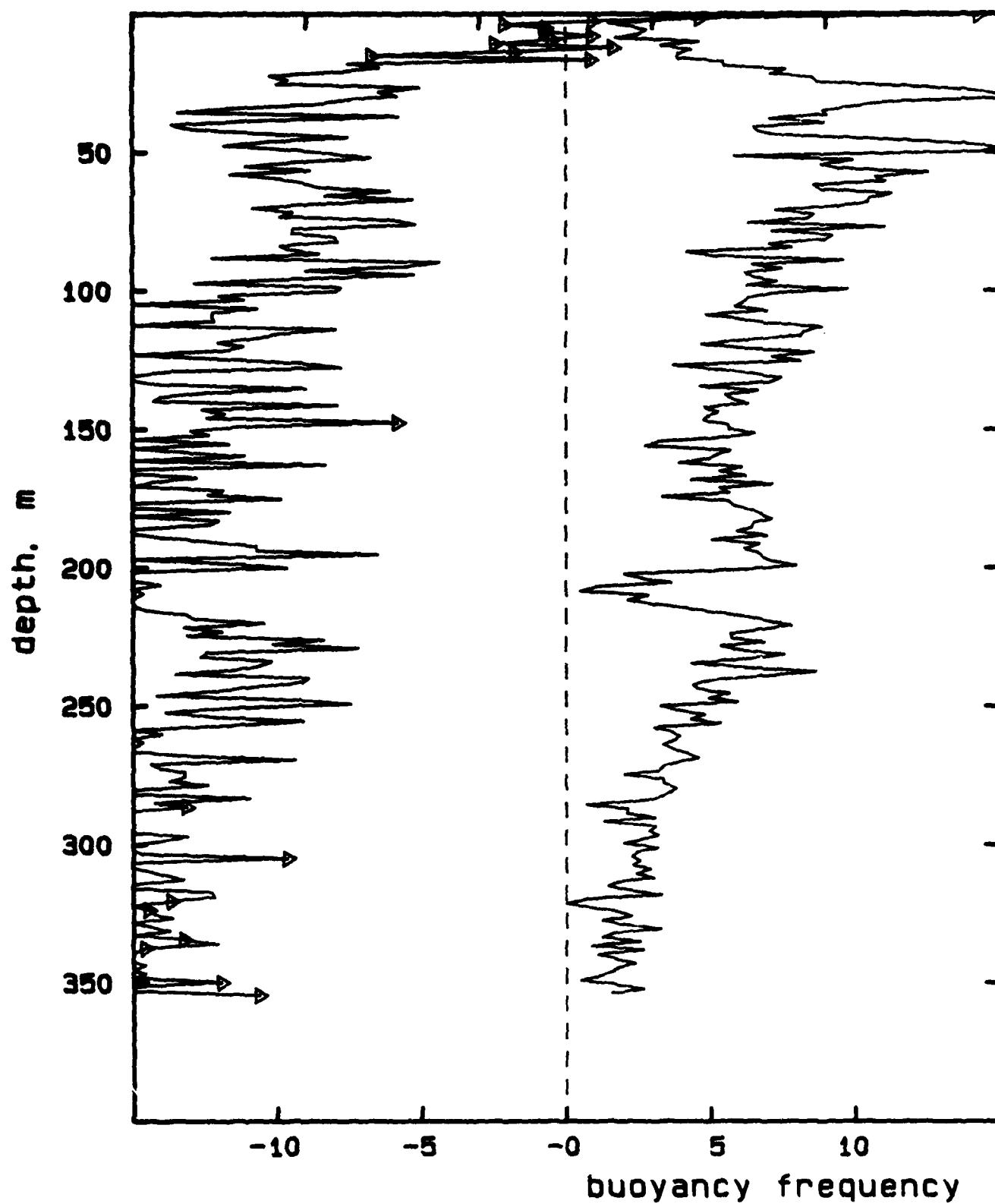
-5      -4      -3      -2



DA425C.006

log (dissipation rate) [cgs]

-5 -4 -3 -2



400

DA425C.007

log (dissipation rate) [cgs]

-5

-4

-3

-2

depth, m

50

100

150

200

250

300

350

-10

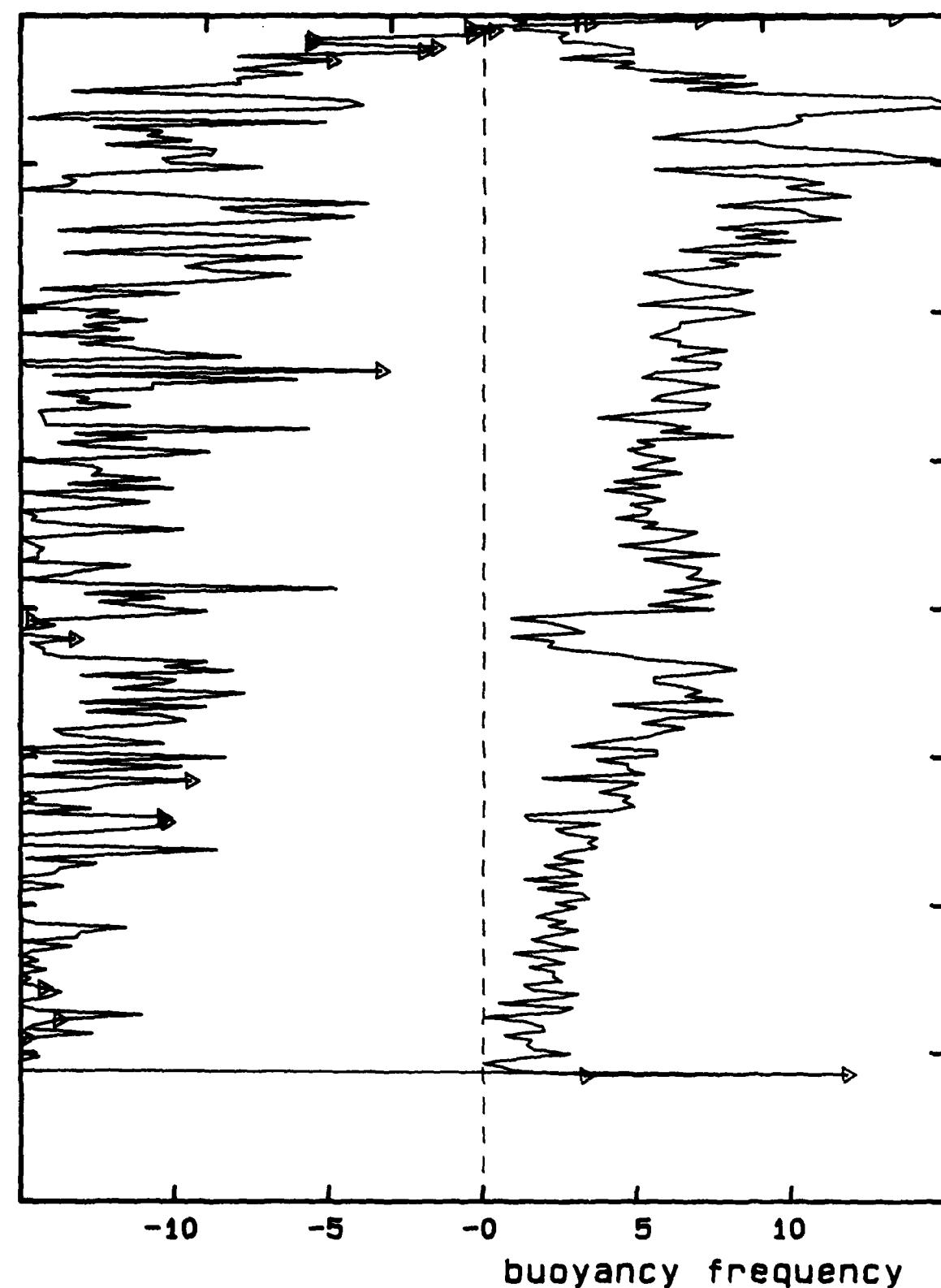
-5

-0

5

10

buoyancy frequency

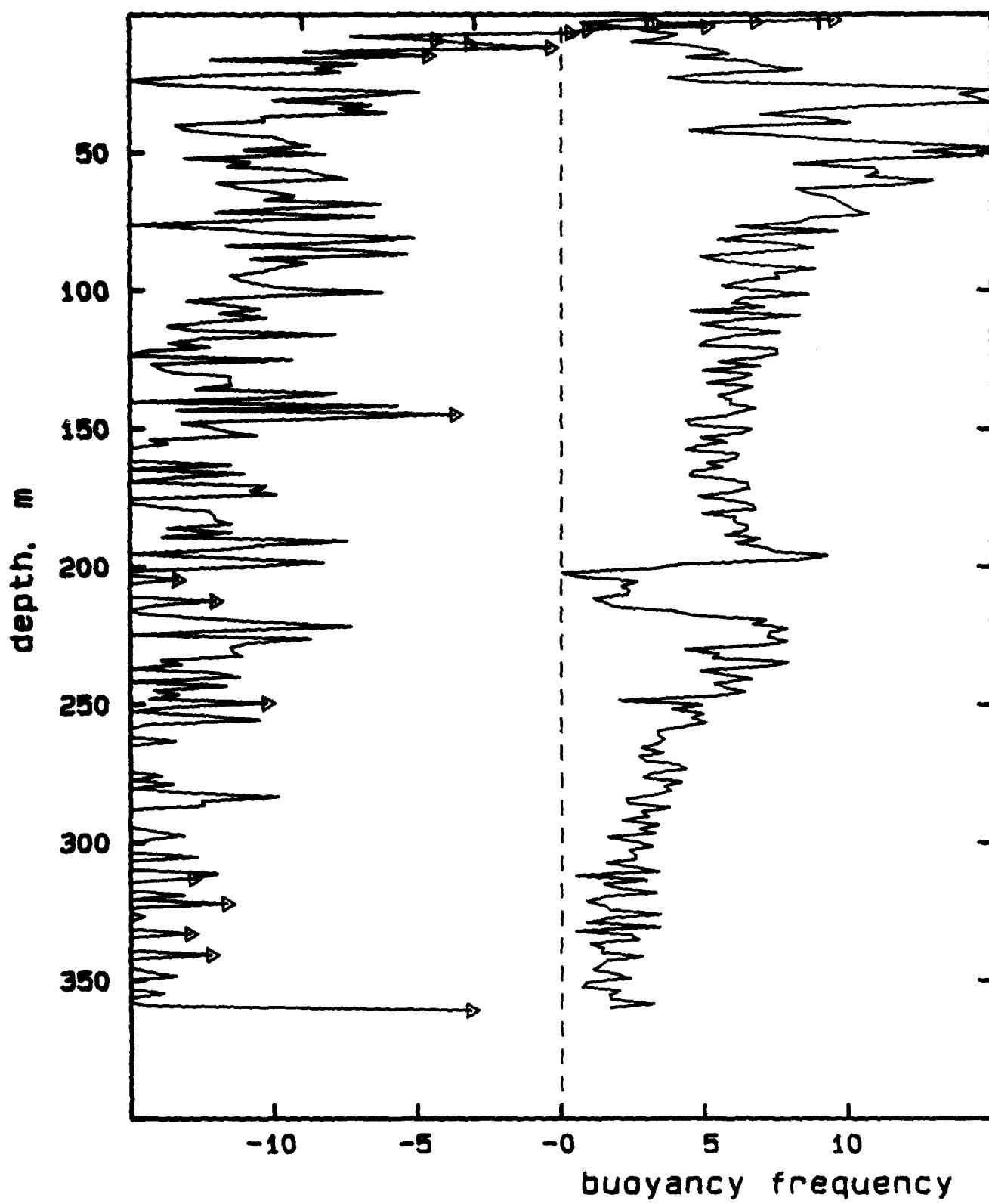


401

DA4250.001

log (dissipation rate) [cgs]

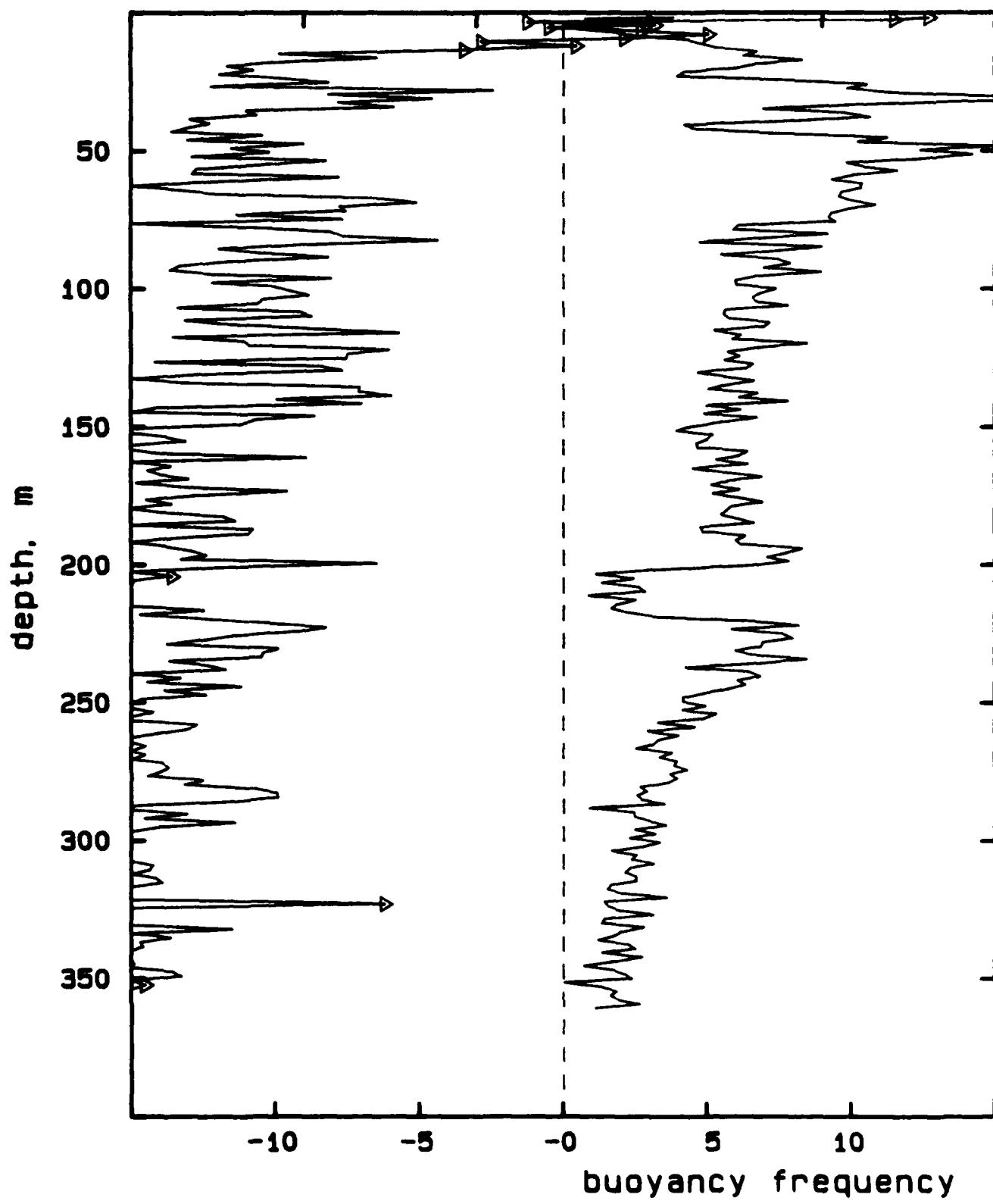
-5 -4 -3 -2



DA425D.002

log (dissipation rate) [cgs]

-5      -4      -3      -2

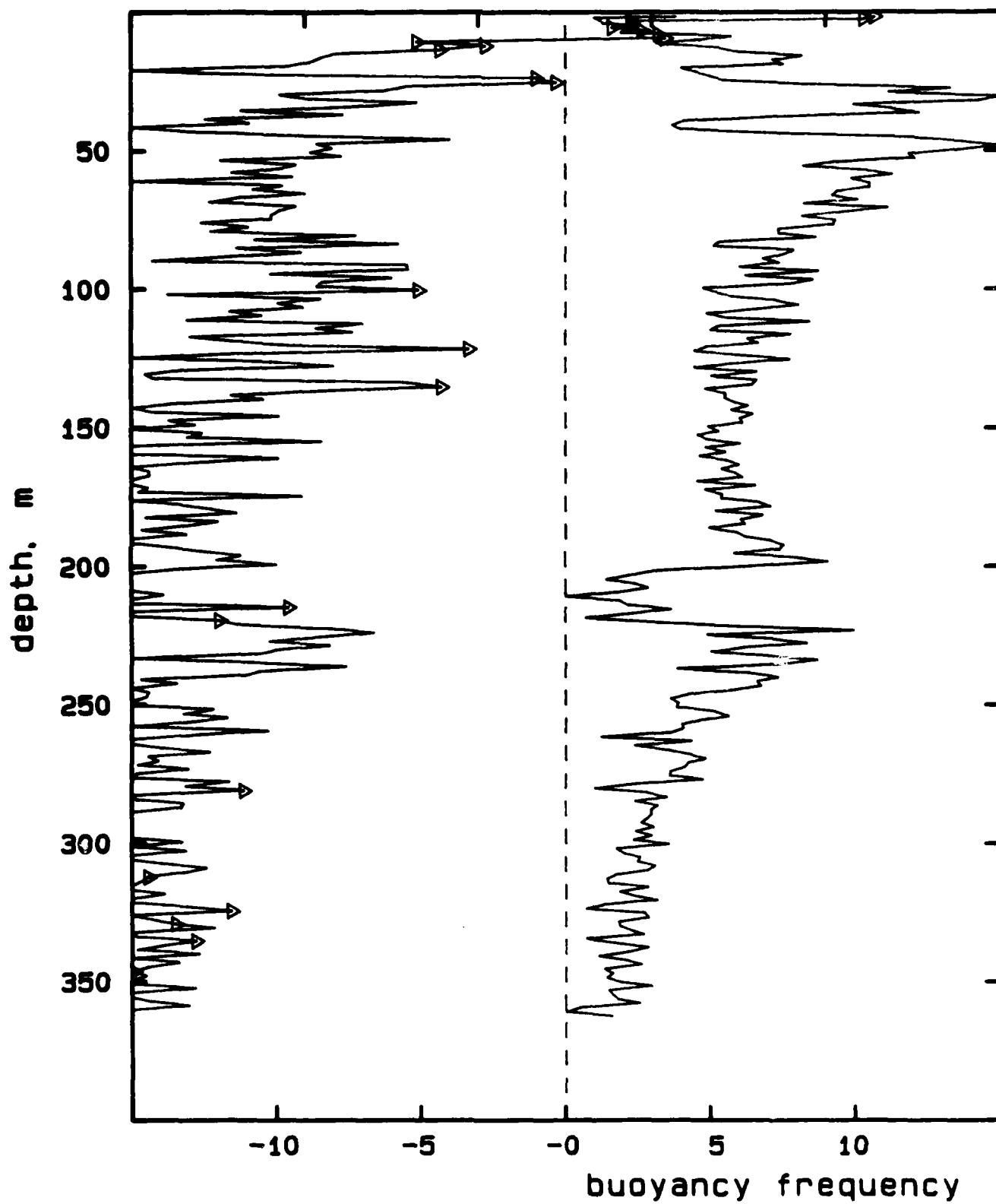


403

DA425D.003

log (dissipation rate) [cgs]

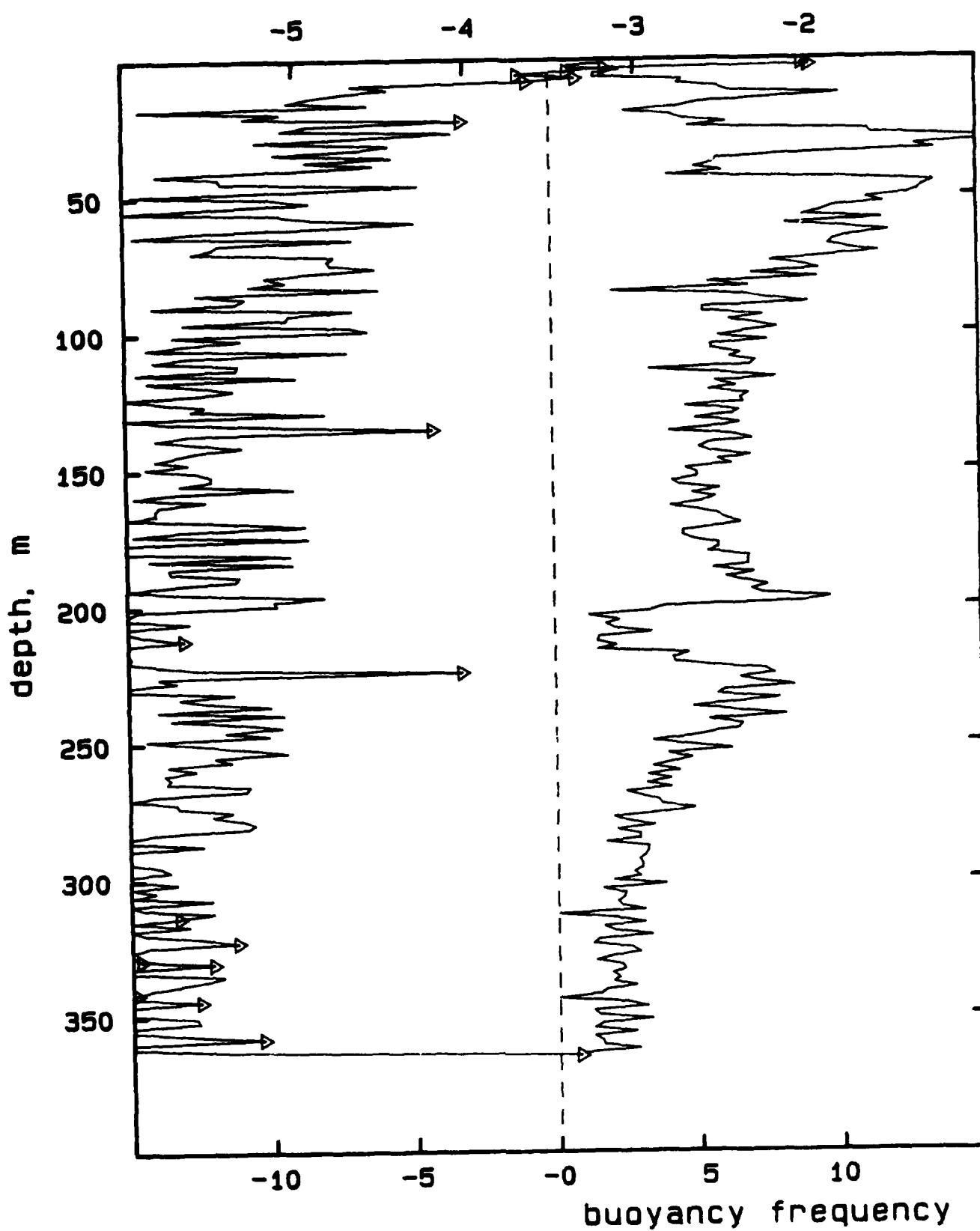
-5 -4 -3 -2



404

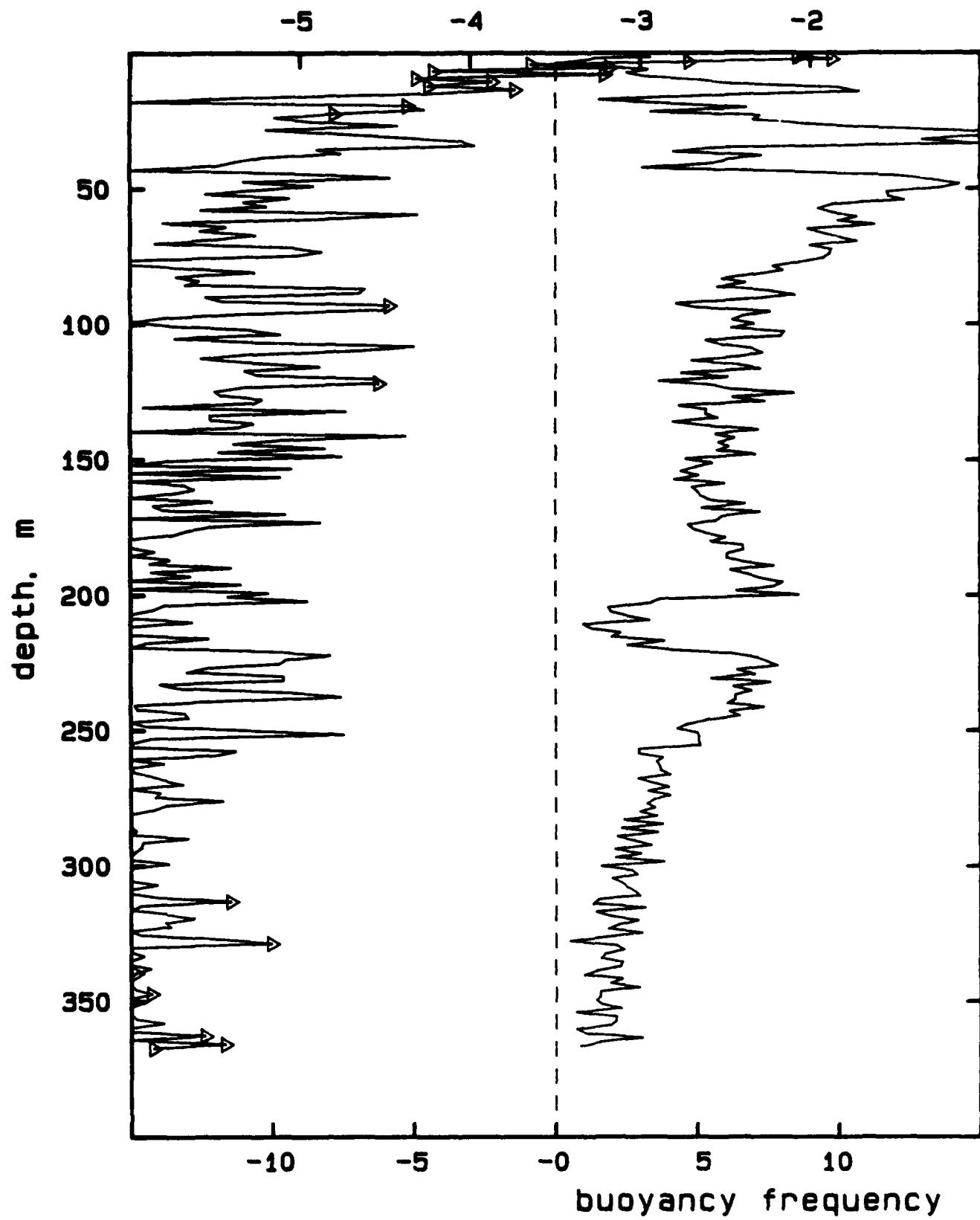
DA4250.004

log (dissipation rate) [cgs]



DA425D.005

log (dissipation rate) [cgs]

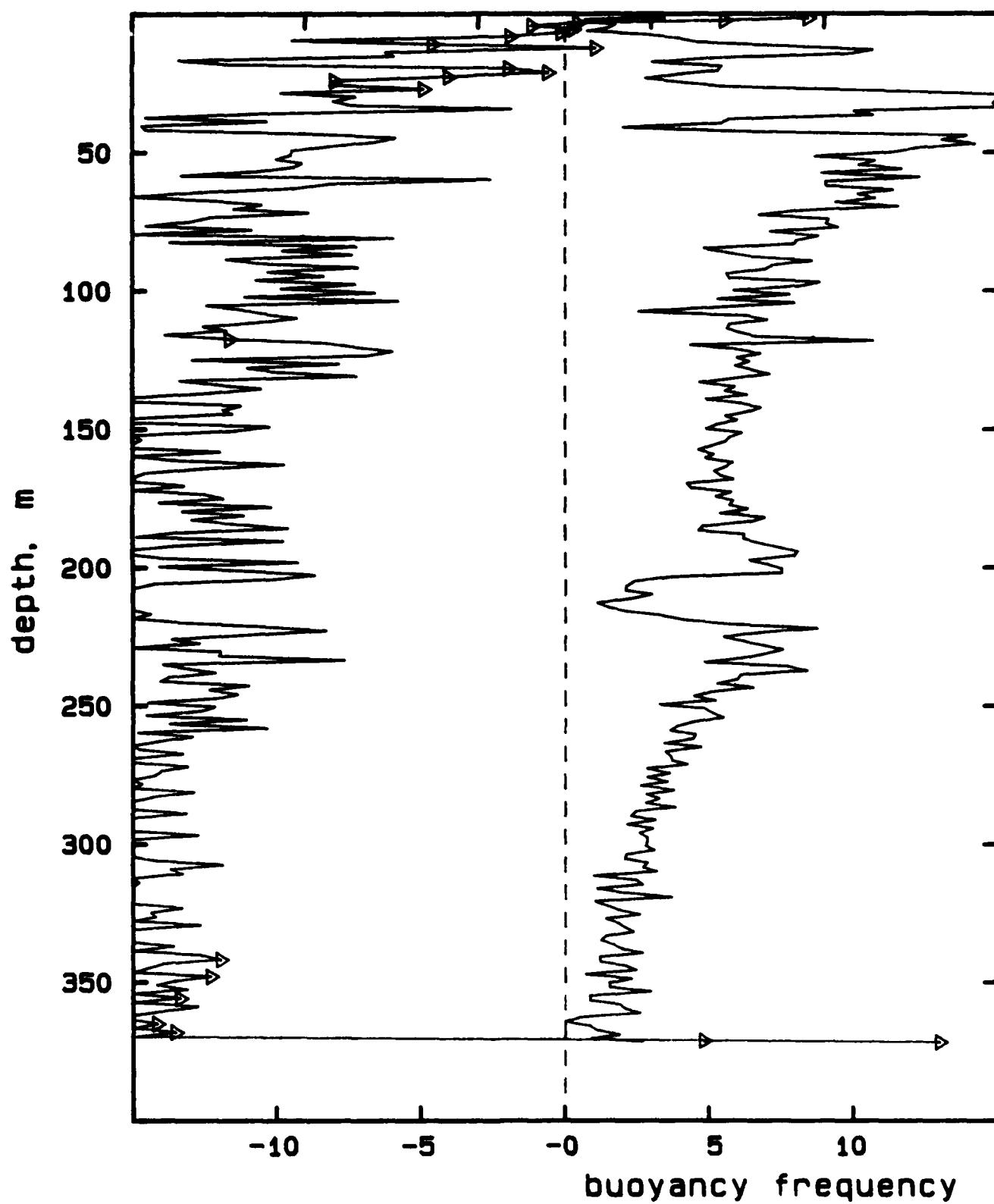


406

DA425D.006

log (dissipation rate) [cgs]

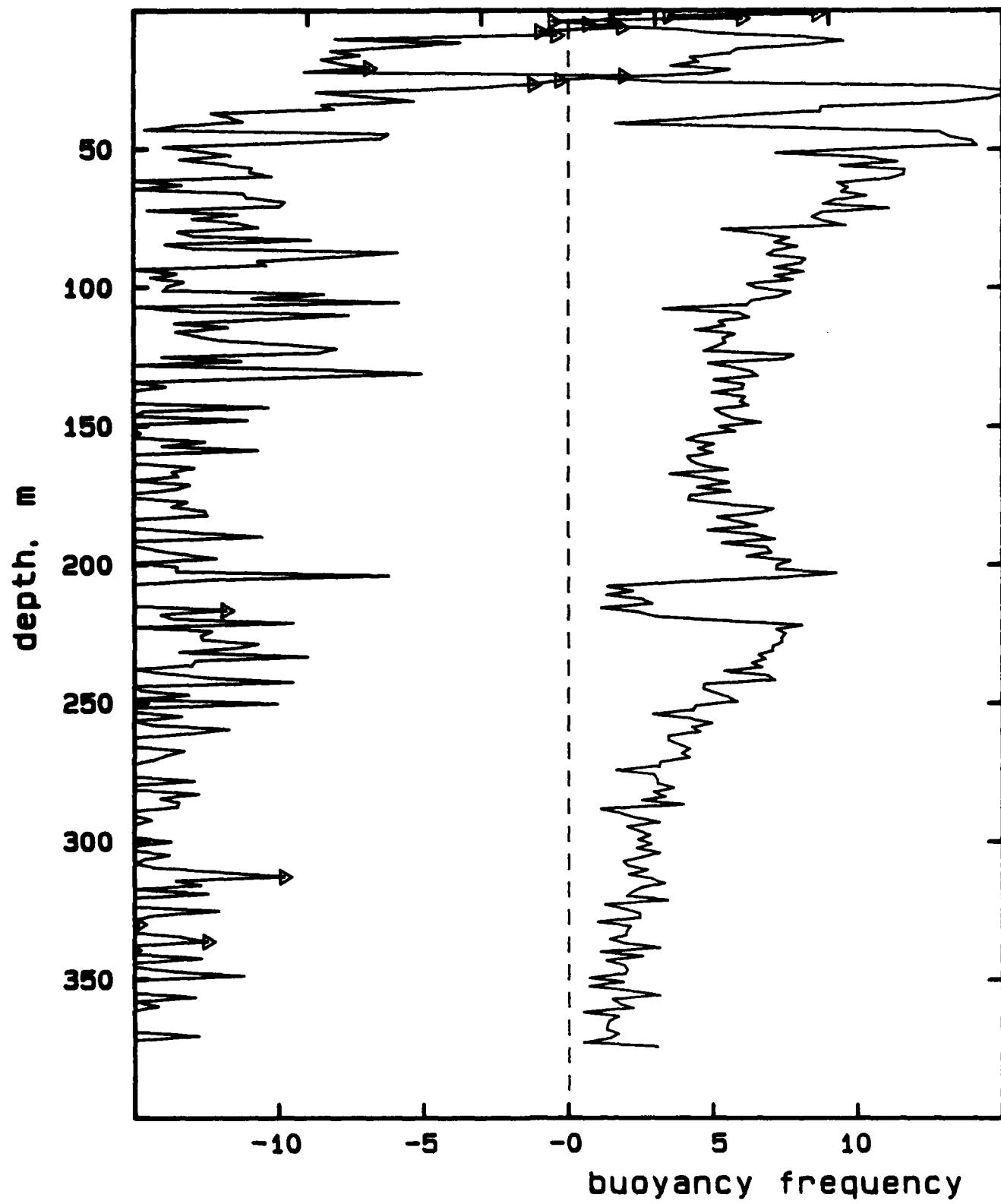
-5                    -4                    -3                    -2



DA425D.007

log (dissipation rate) [cgs]

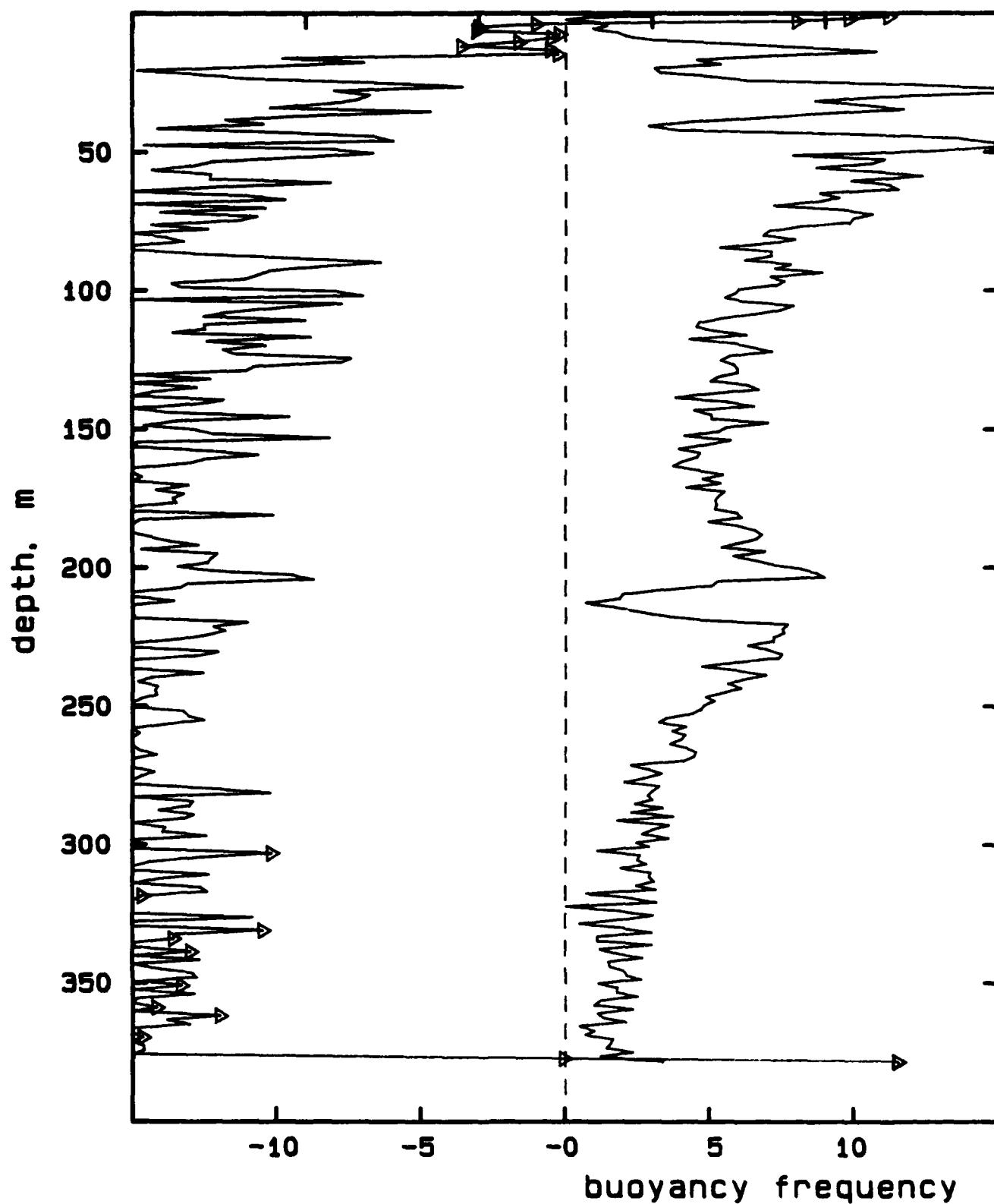
-5 -4 -3 -2



DA425E.001

log (dissipation rate) [cgs]

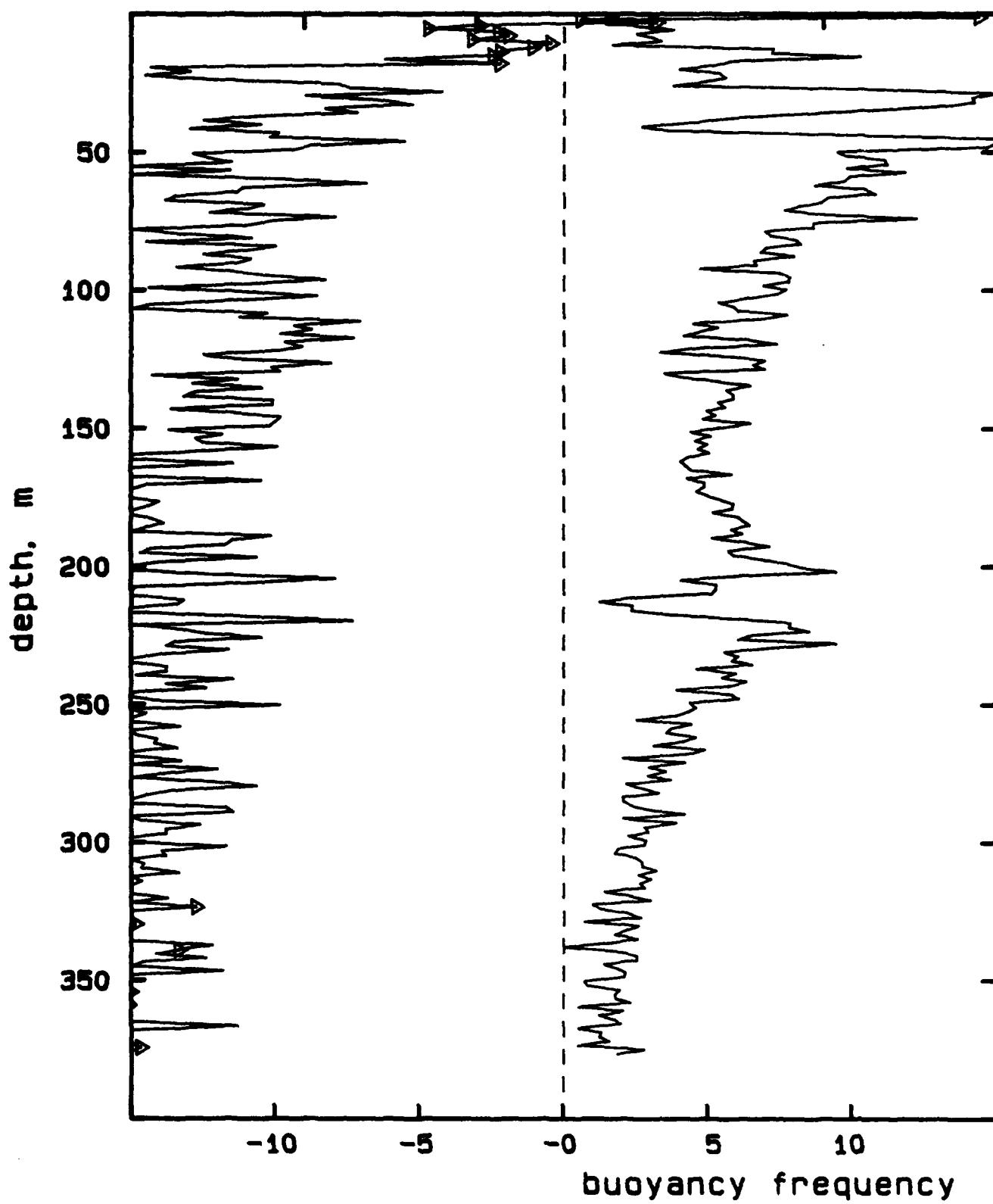
-5      -4      -3      -2



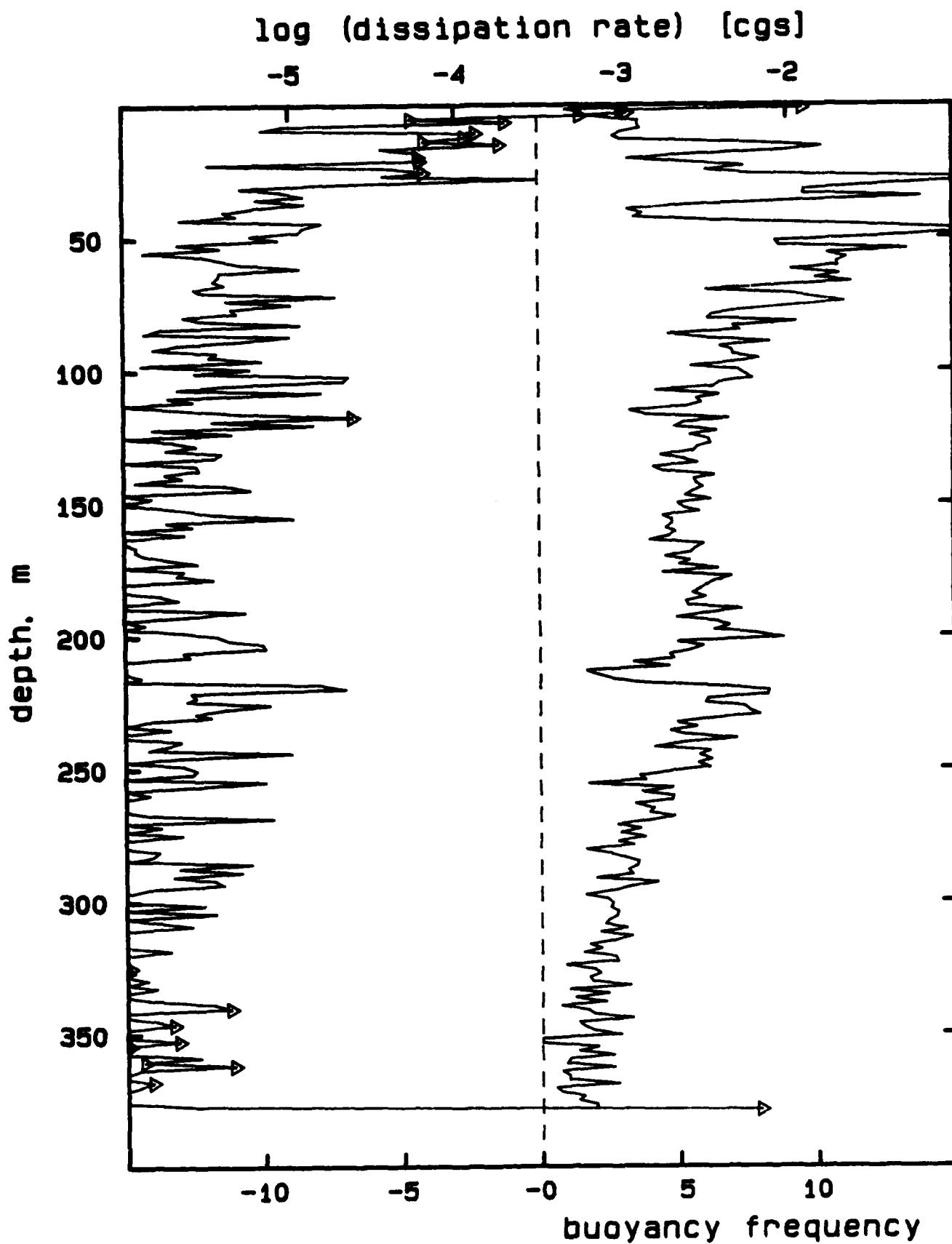
DA425E.002

log (dissipation rate) [cgs]

-5      -4      -3      -2



DA425E.003



411

DA425E.004

log (dissipation rate) [cgs]

-5

-4

-3

-2

depth, m

50

100

150

200

250

300

350

-10

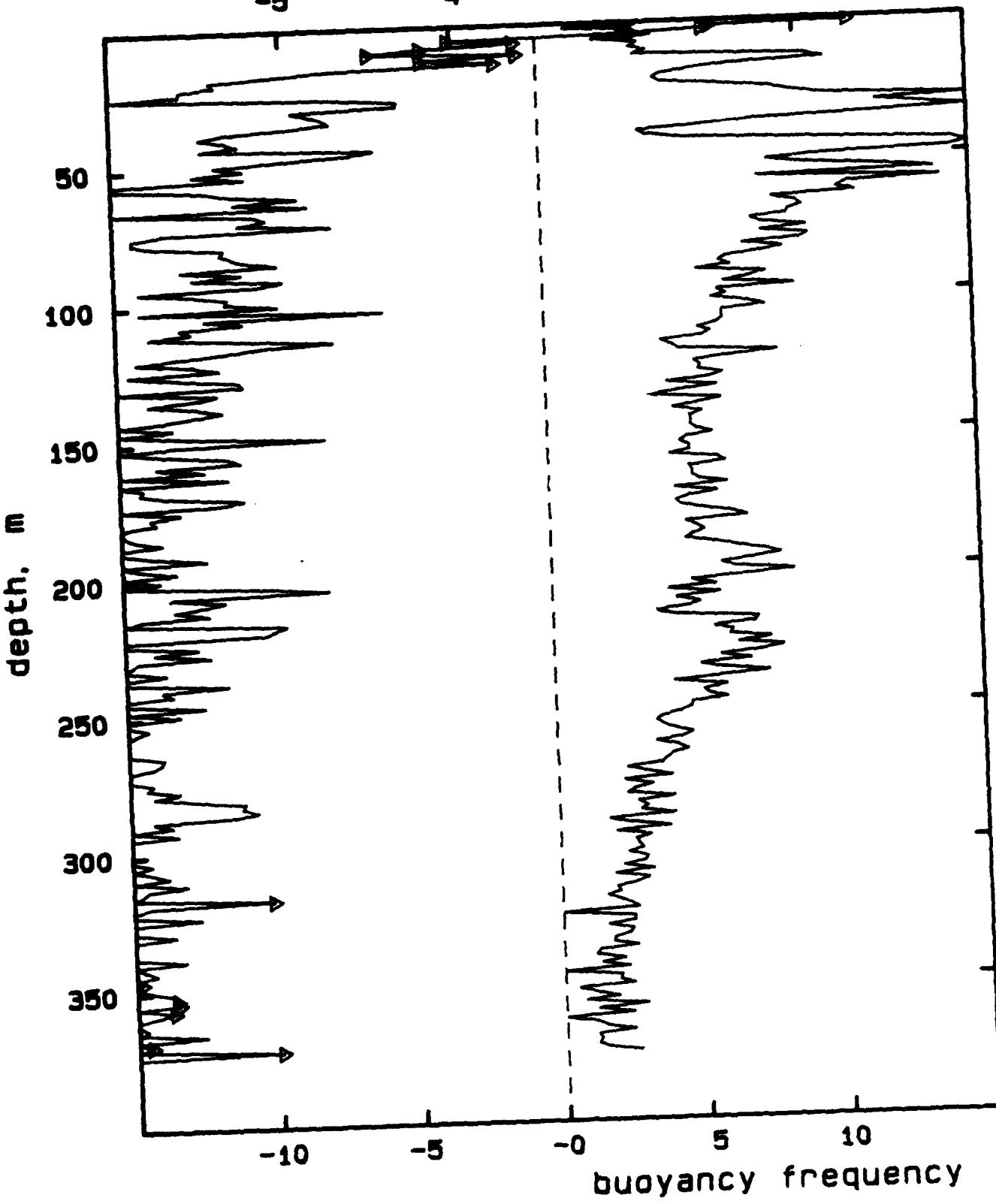
-5

-0

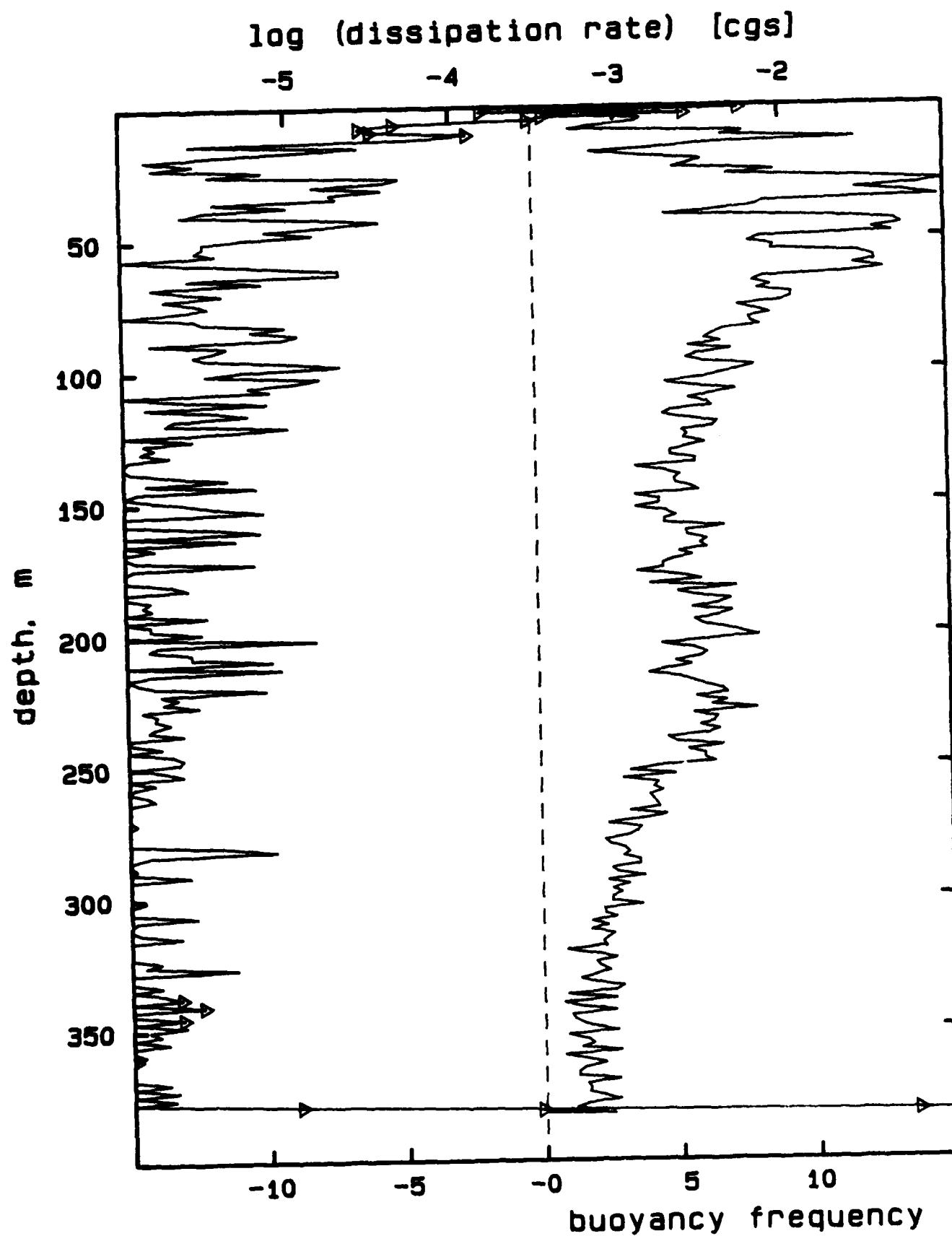
5

10

buoyancy frequency



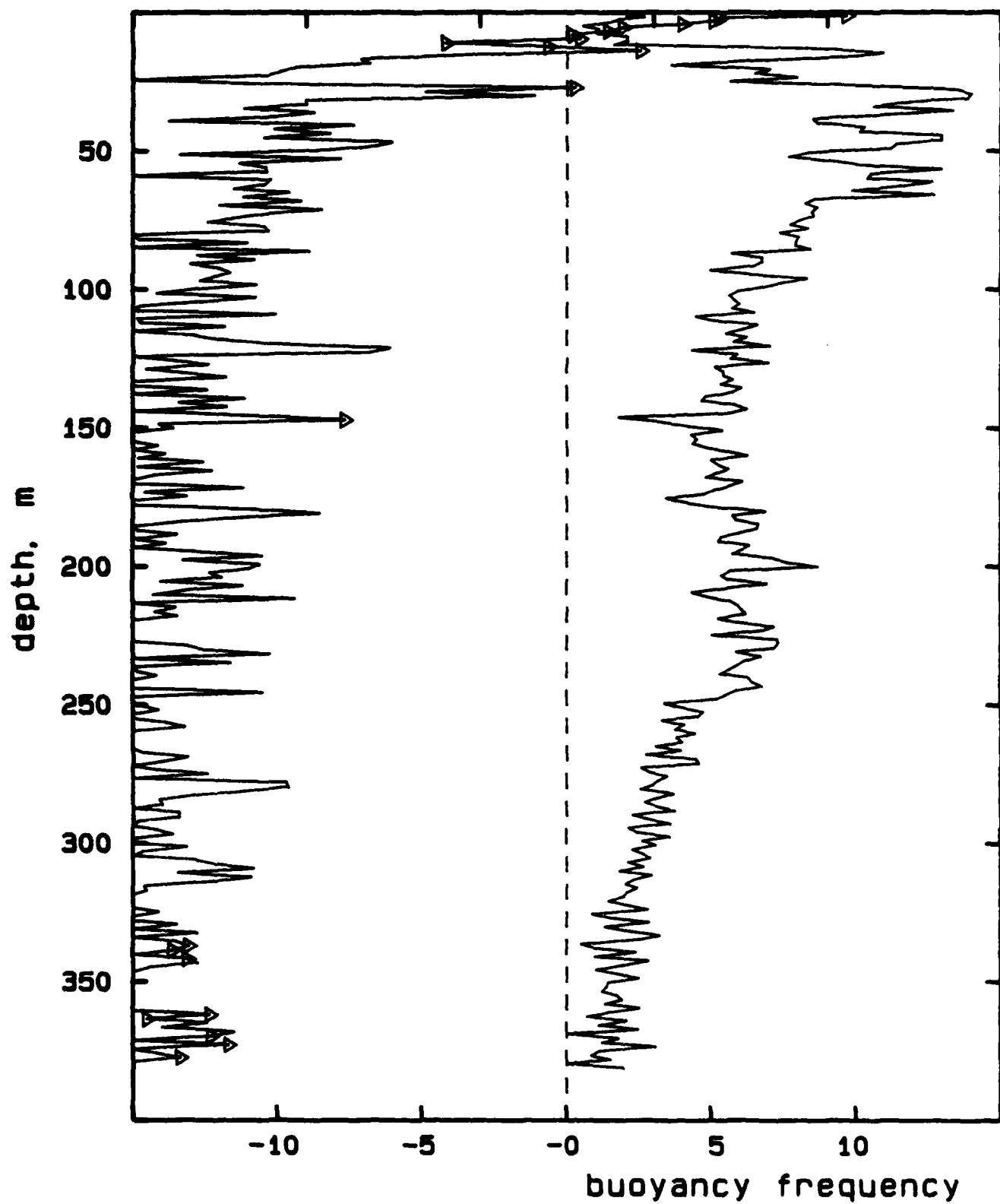
DA425E.005



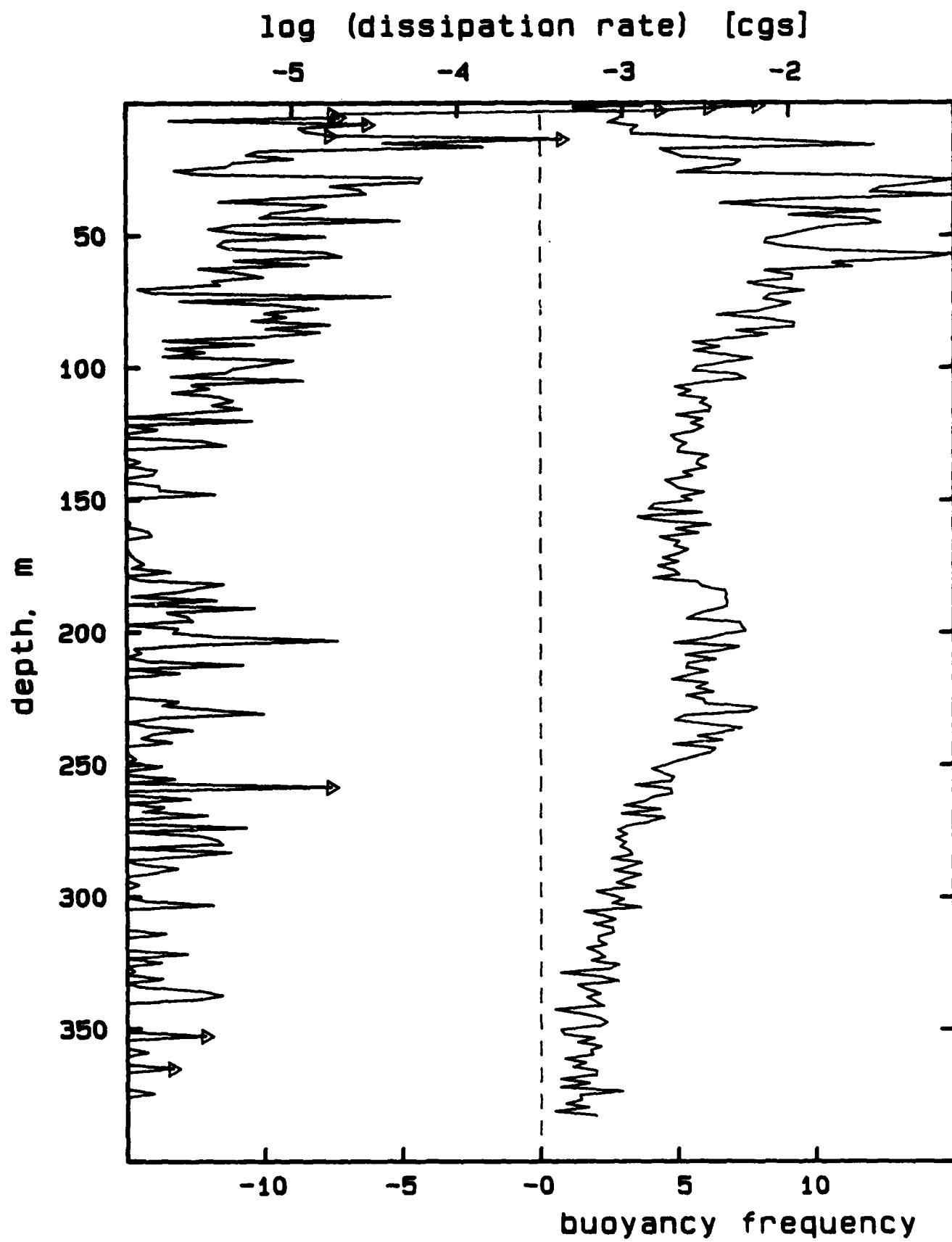
DA425E.006

log (dissipation rate) [cgs]

-5 -4 -3 -2



DA425E.007

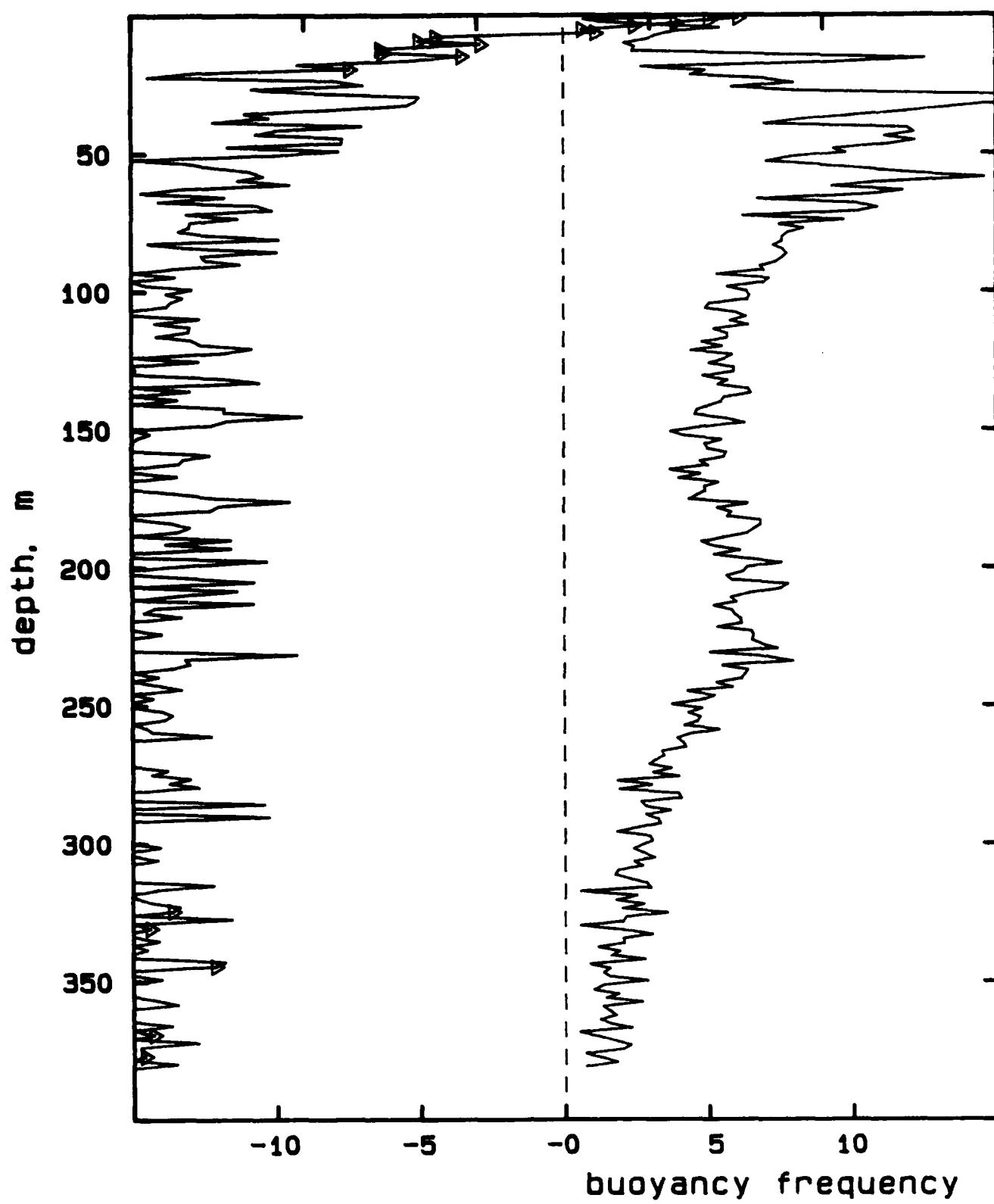


415

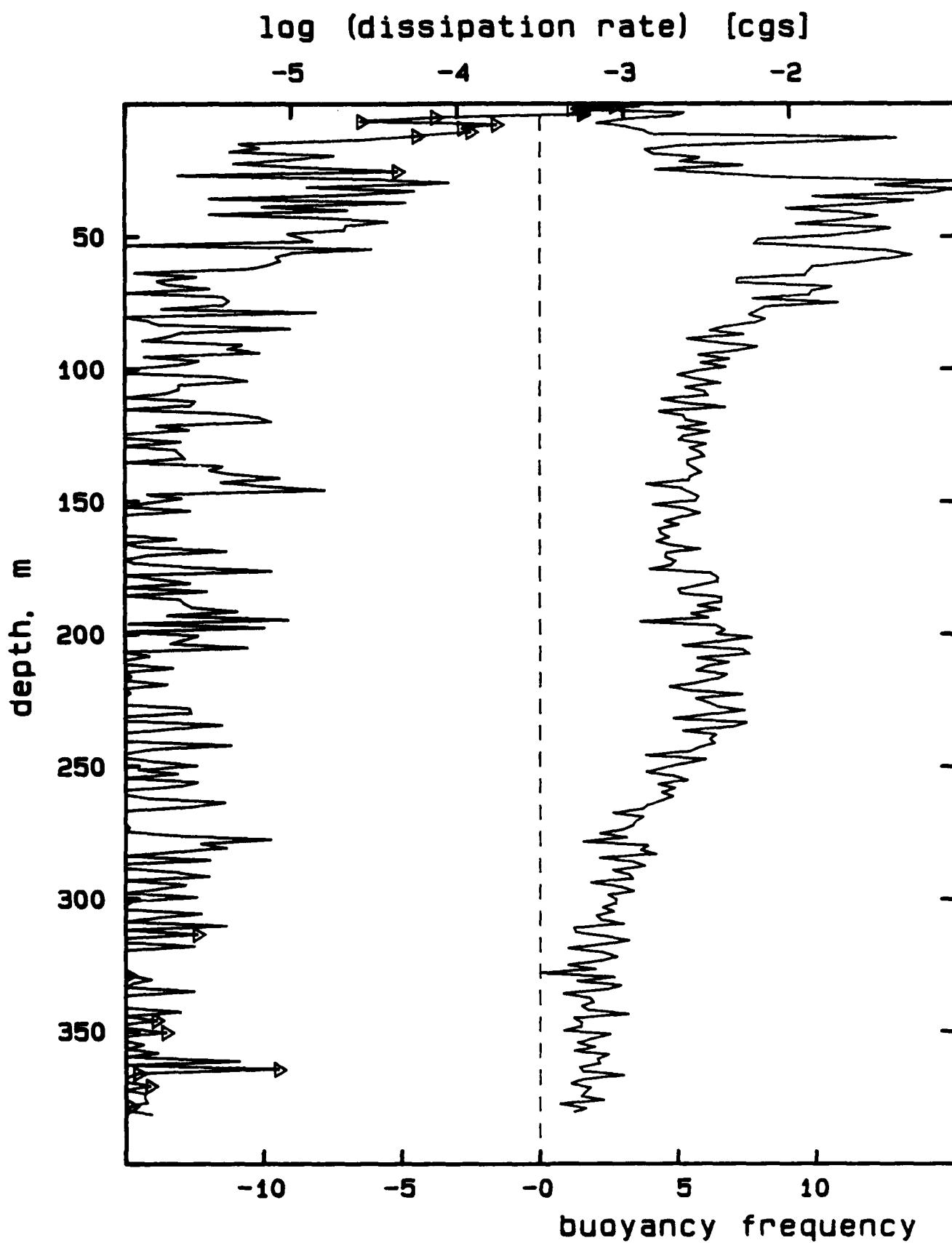
DA425F.001

log (dissipation rate) [cgs]

-5 -4 -3 -2



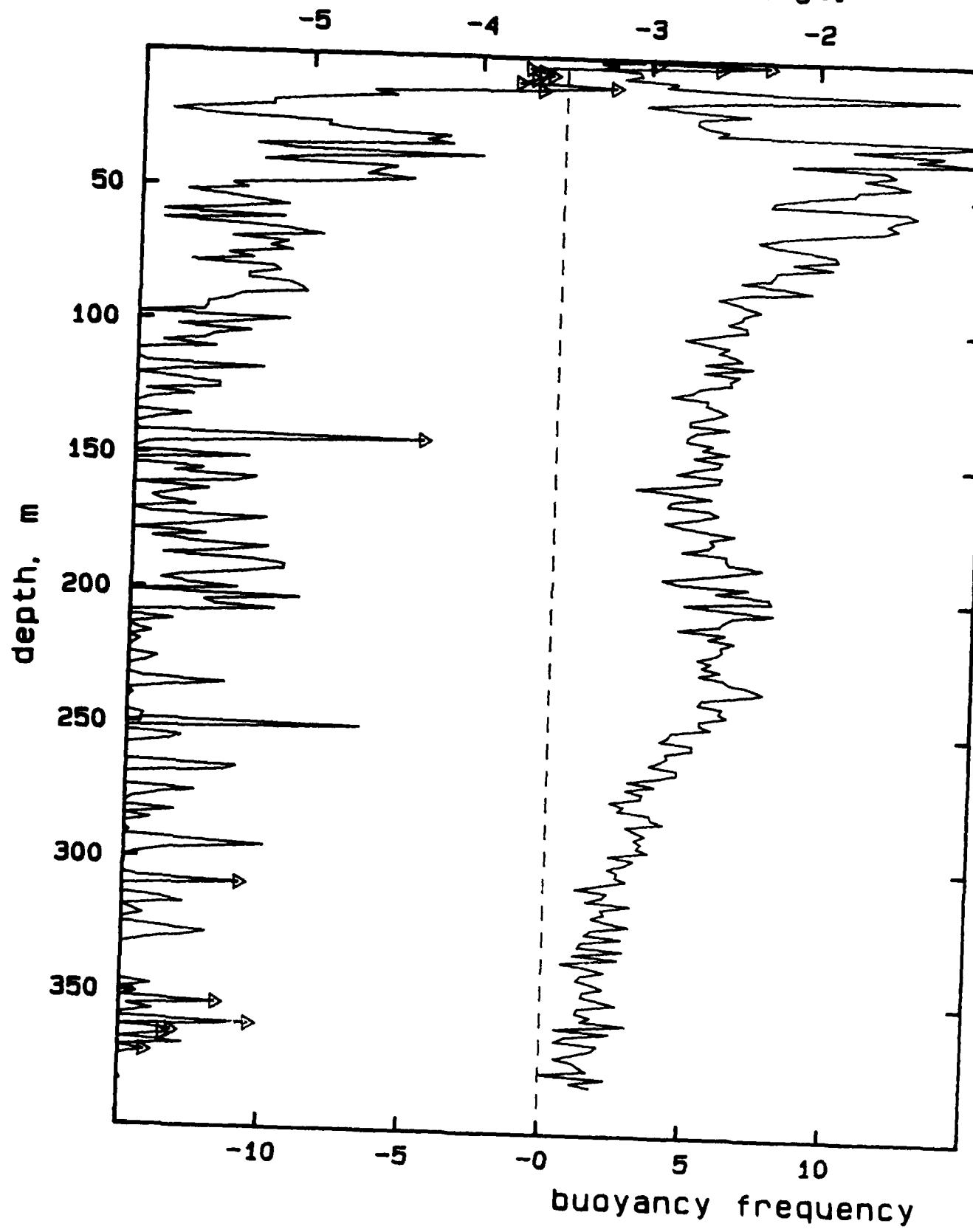
DA425F.002



417

DA425F .003

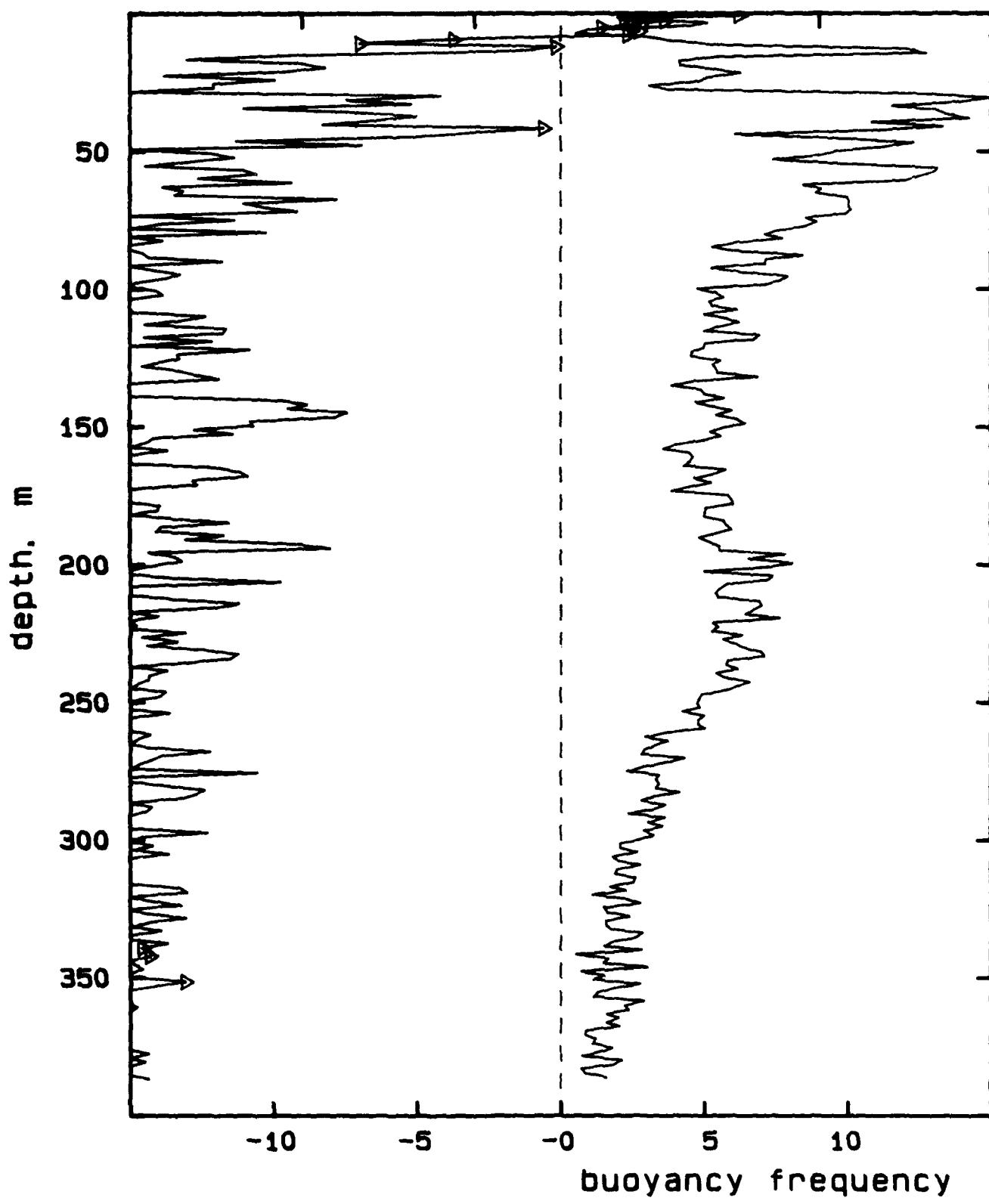
log (dissipation rate) [cgs]



DA425F.004

log (dissipation rate) [cgs]

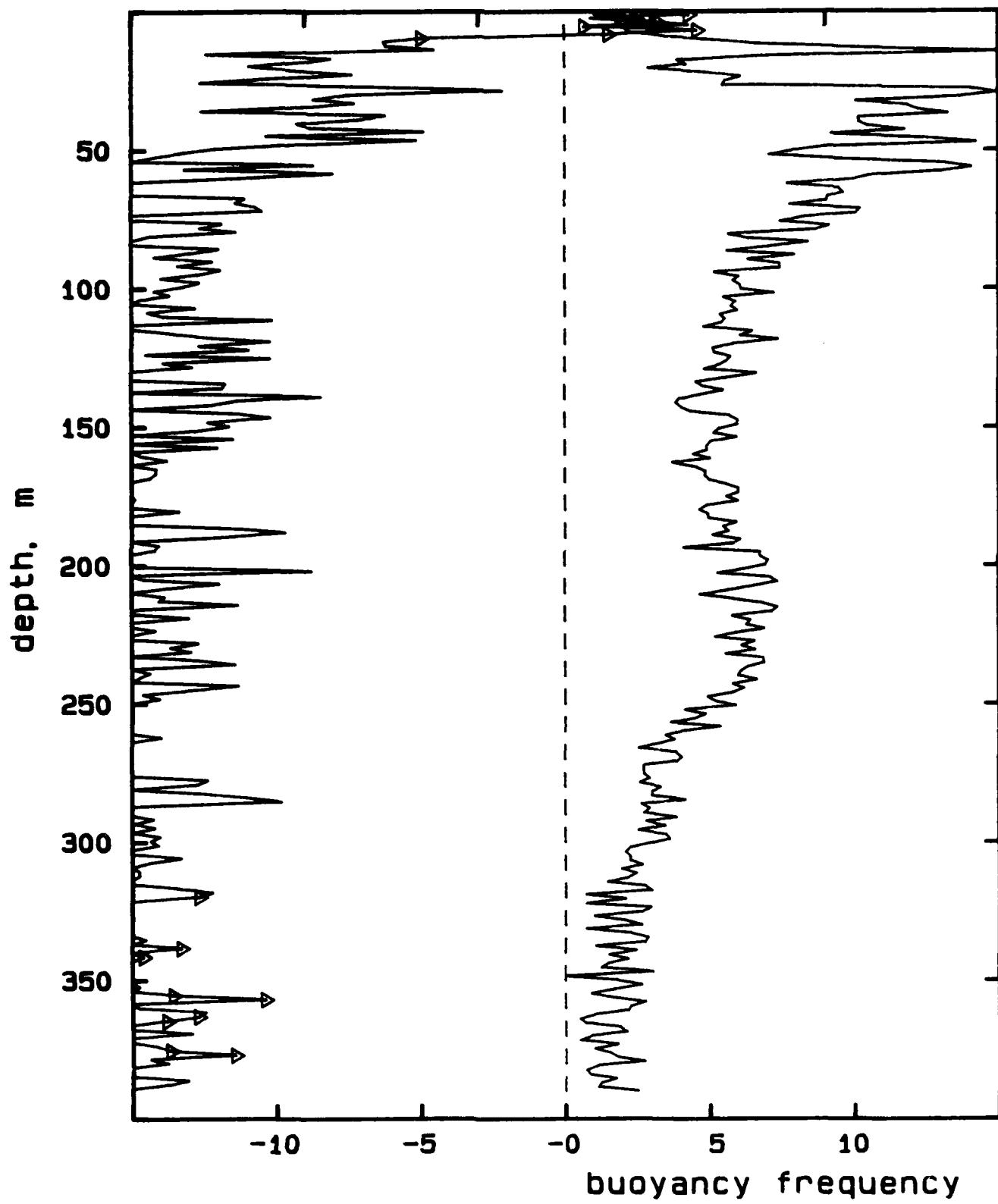
-5 -4 -3 -2



DA425F.005

log (dissipation rate) [cgs]

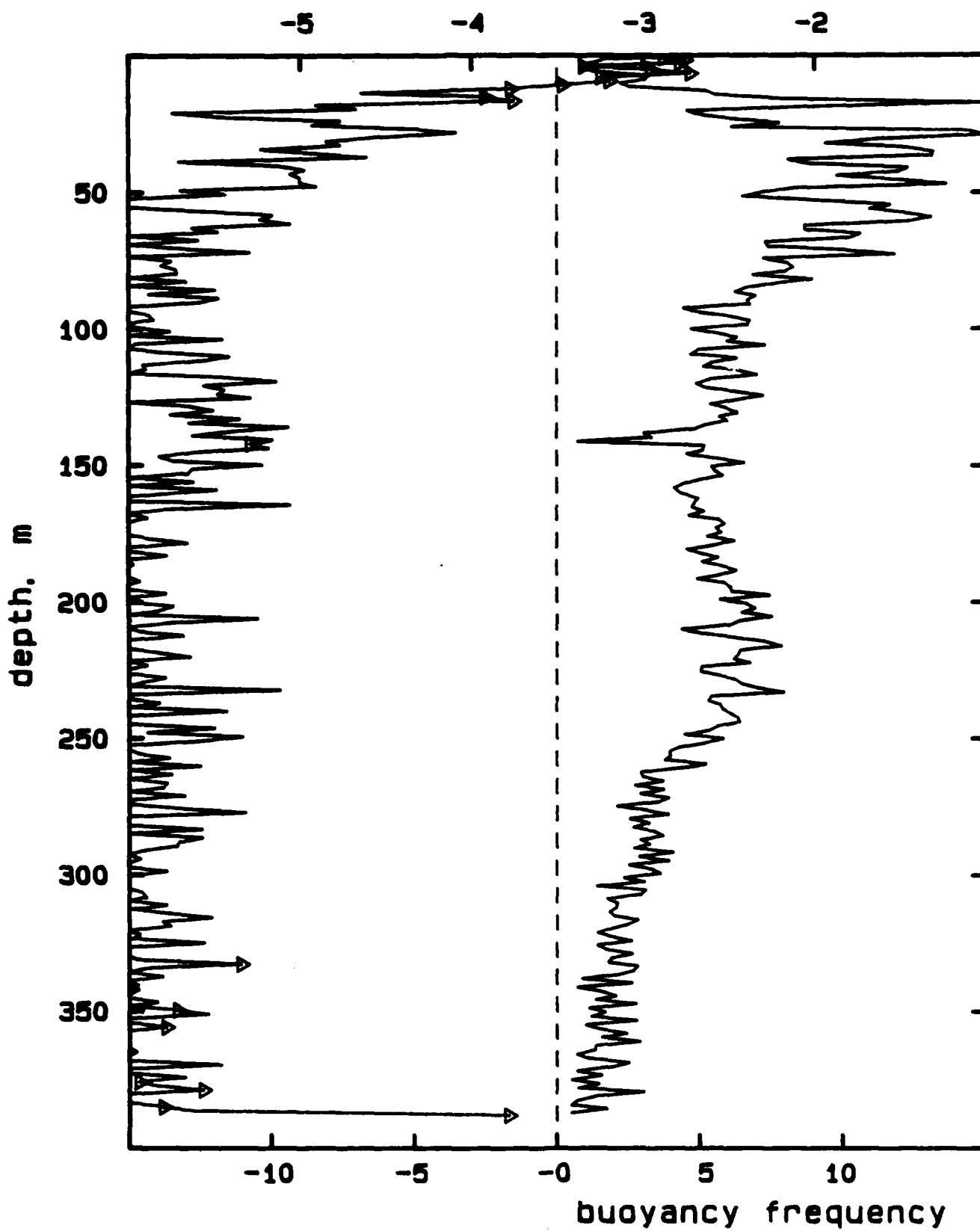
-5 -4 -3 -2



420

DA425F.006

log (dissipation rate) [cgs]

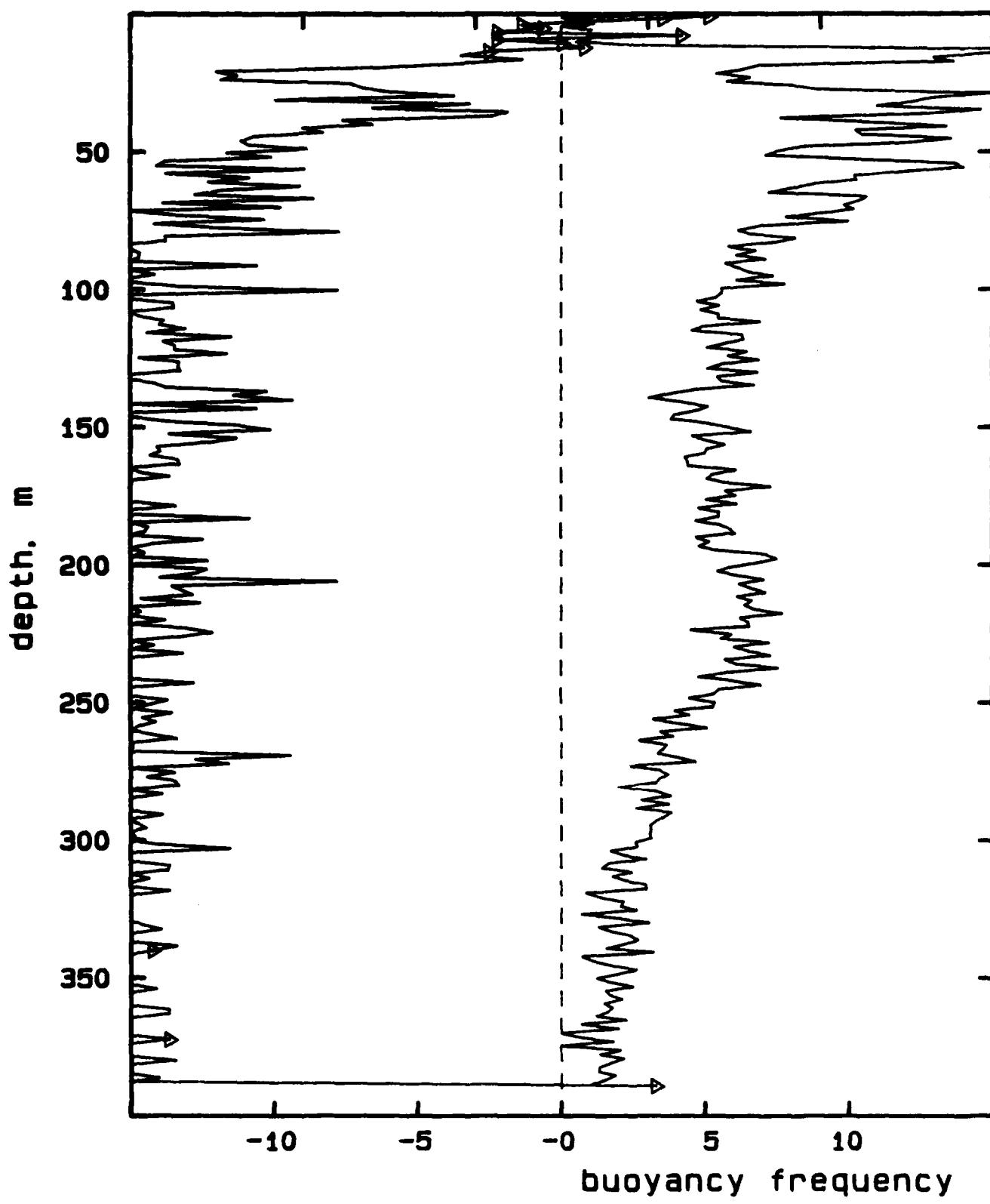


421

DA425F.007

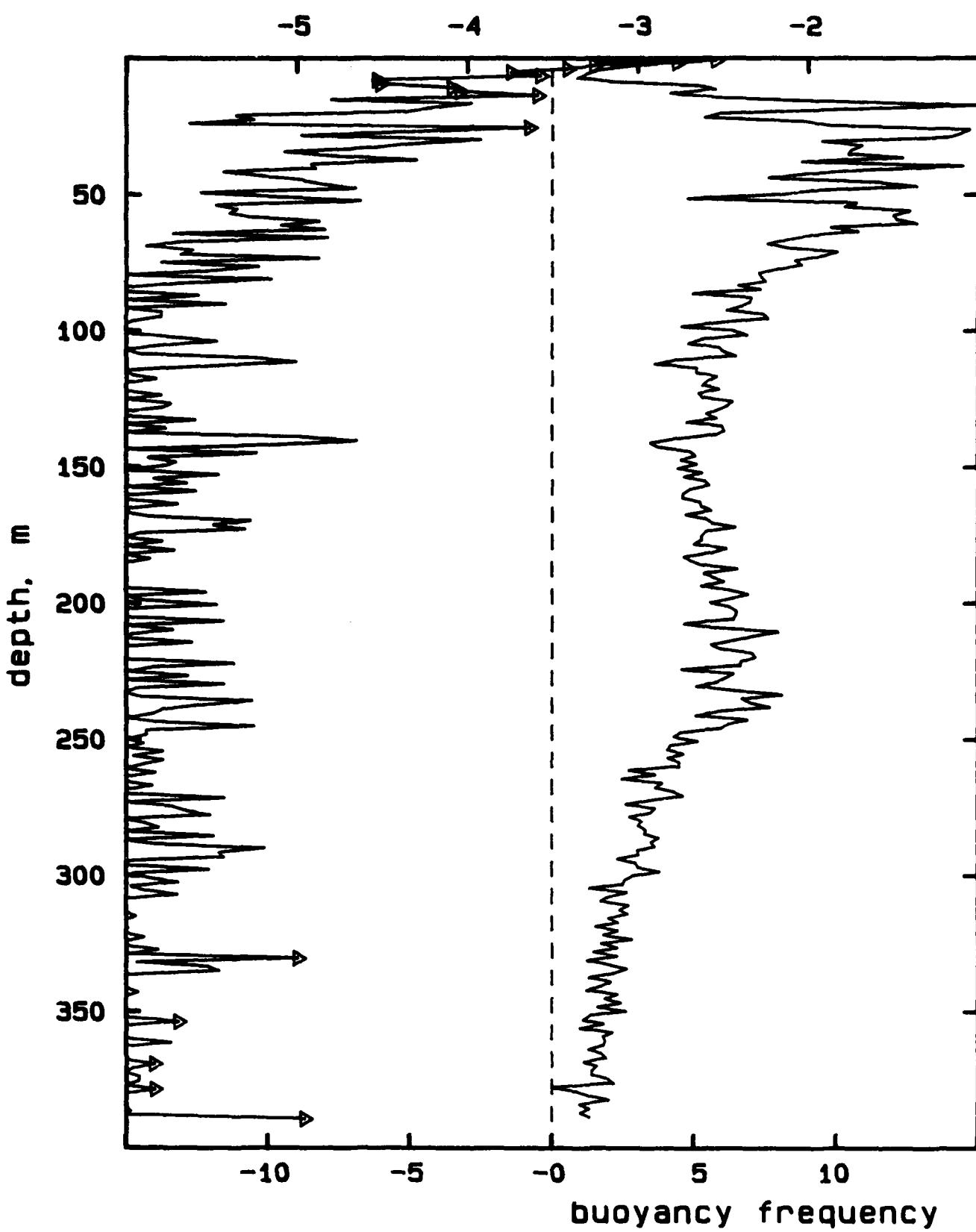
log (dissipation rate) [cgs]

-5 -4 -3 -2



DA425G.001

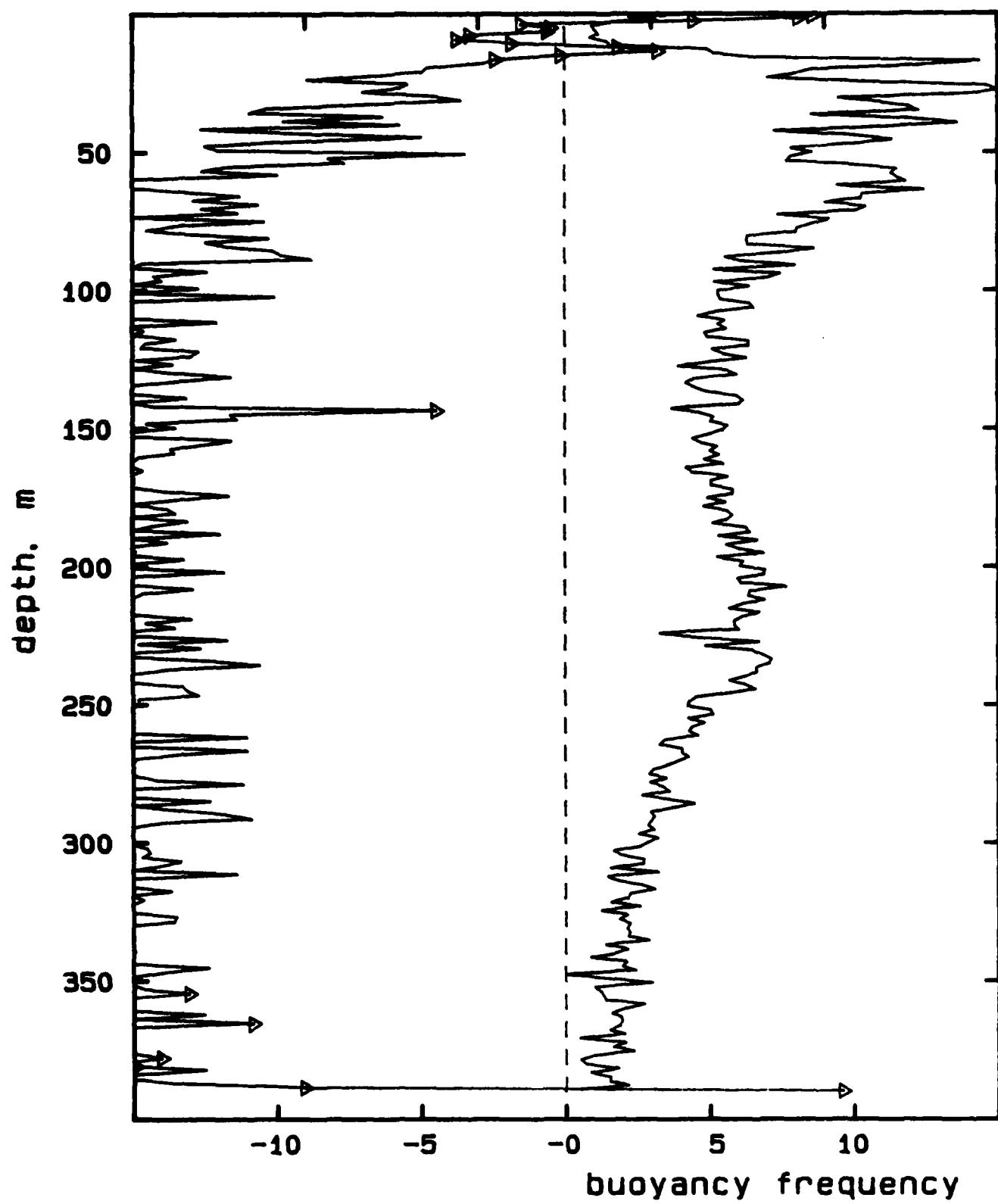
log (dissipation rate) [cgs]



DA425G.002

log (dissipation rate) [cgs]

-5 -4 -3 -2

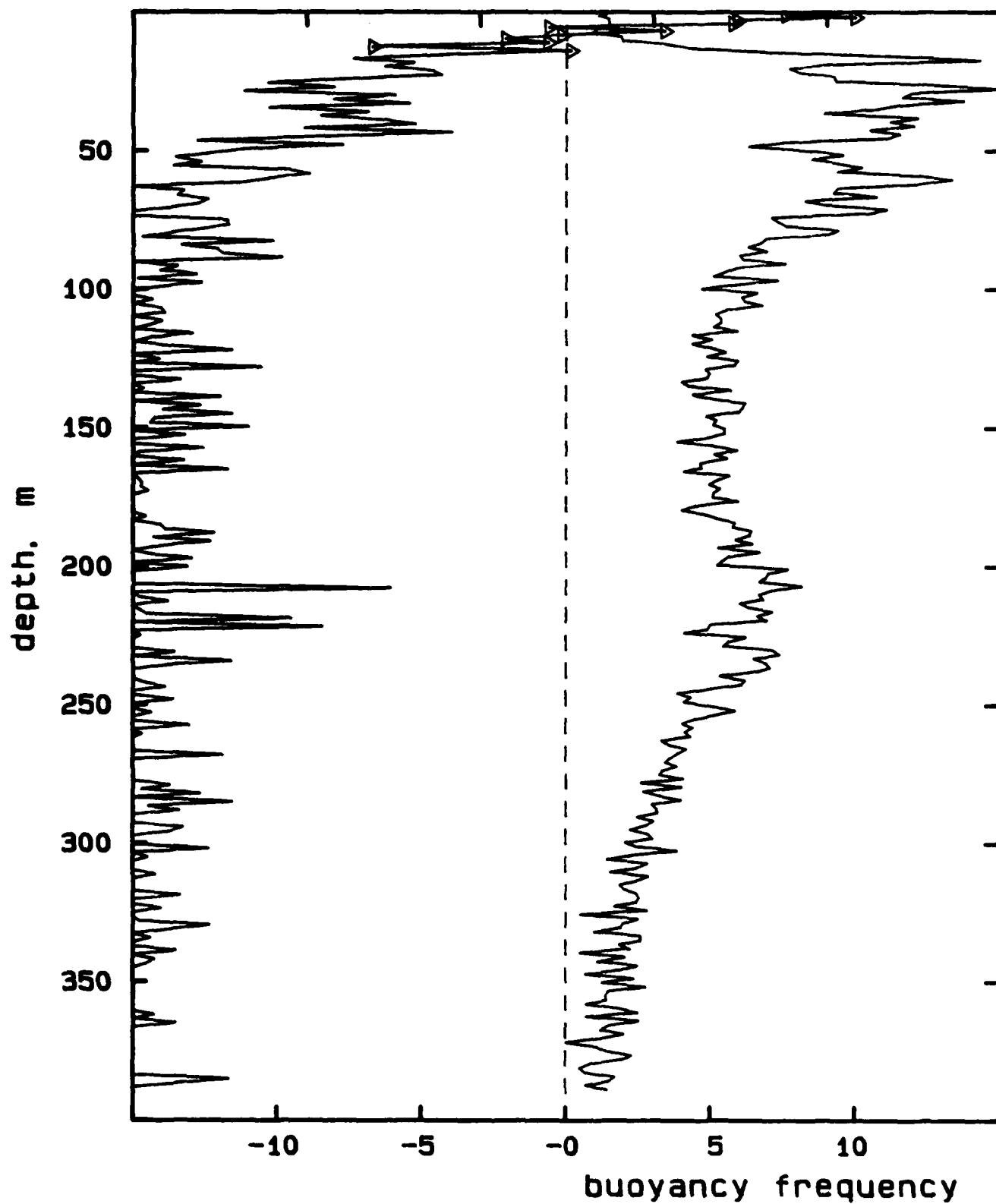


424

DA425G.003

log (dissipation rate) [cgs]

-5      -4      -3      -2

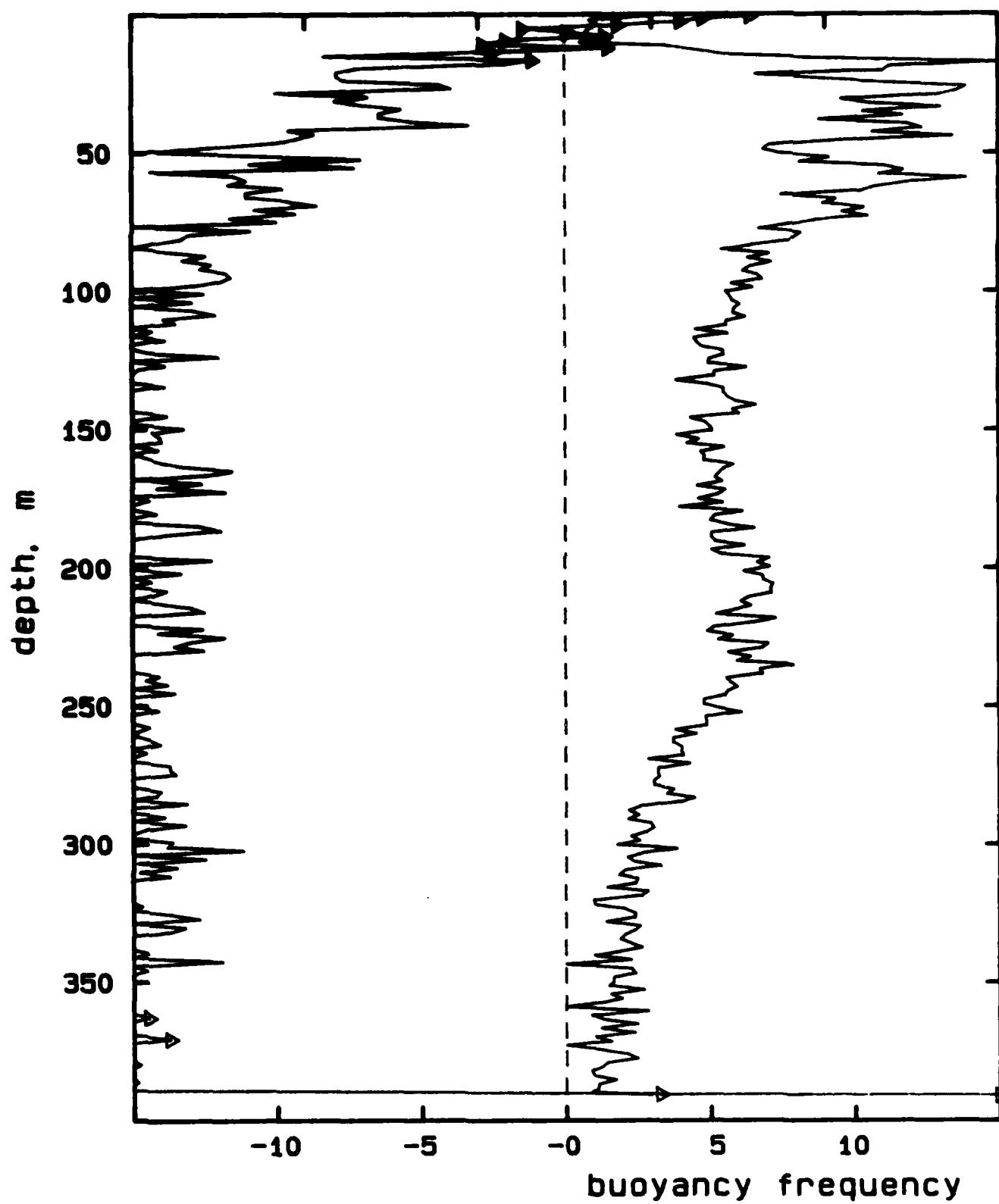


425

DA425G.004

log (dissipation rate) [cgs]

-5 -4 -3 -2

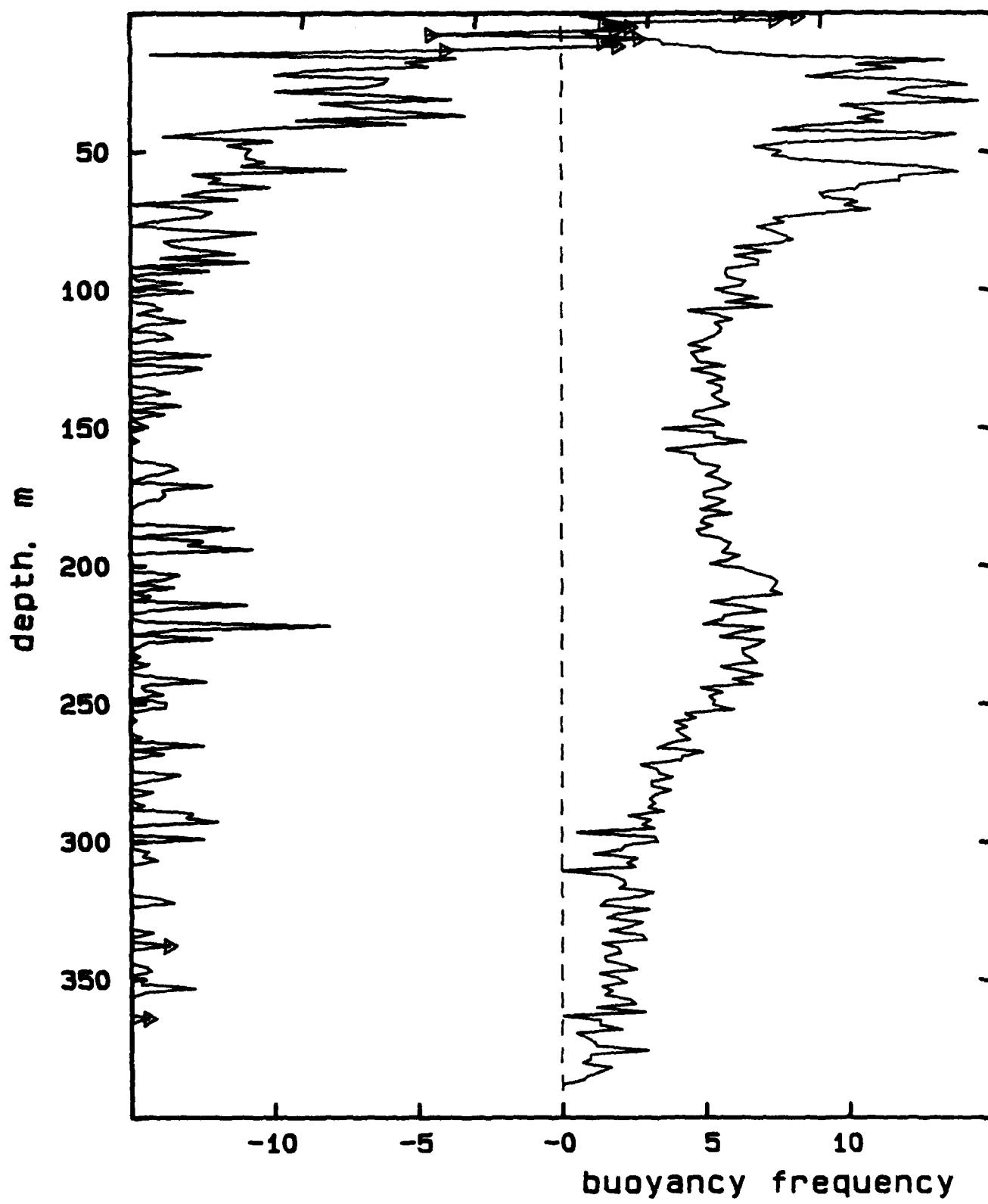


426

DA425G.005

log (dissipation rate) [cgs]

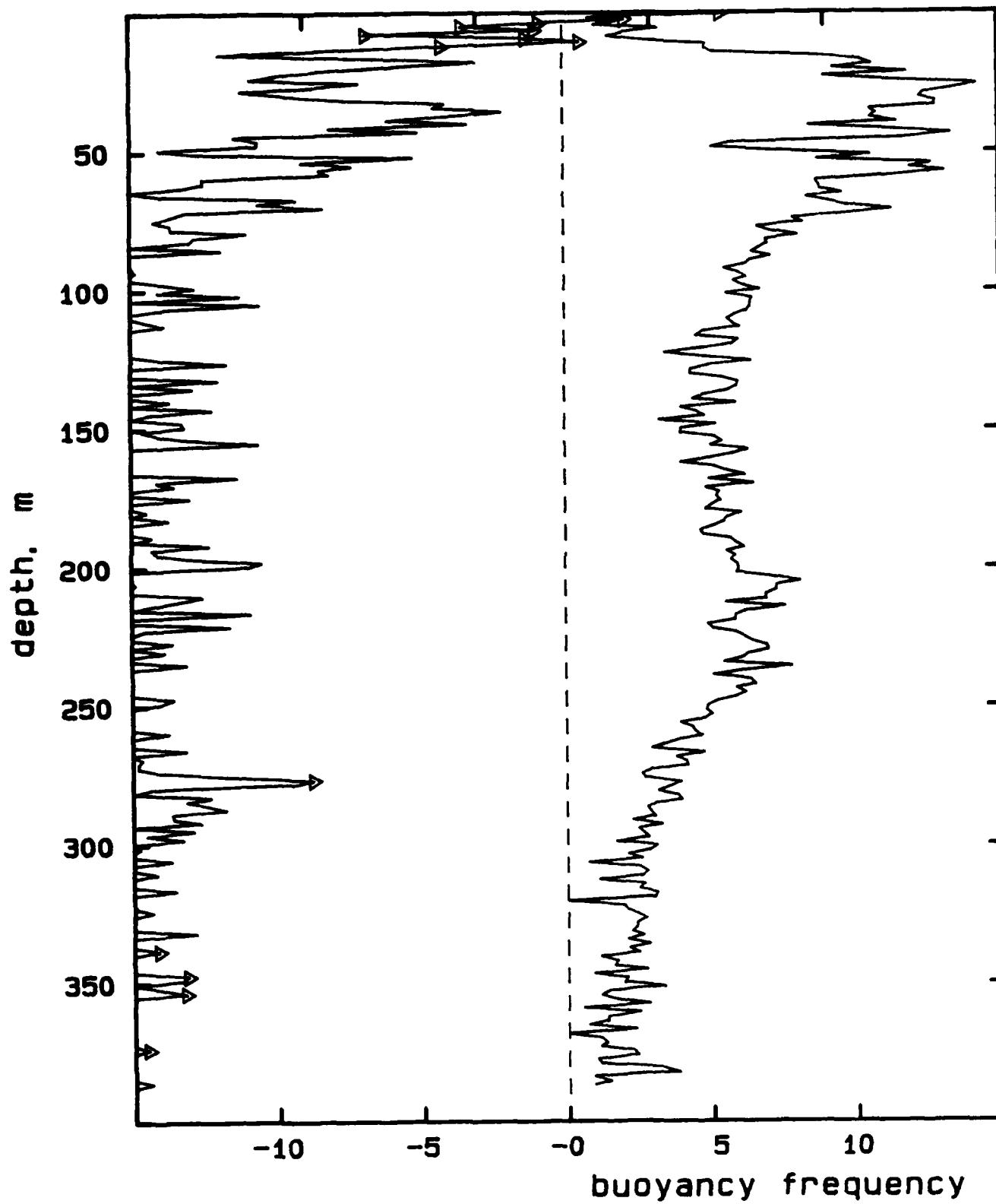
-5      -4      -3      -2



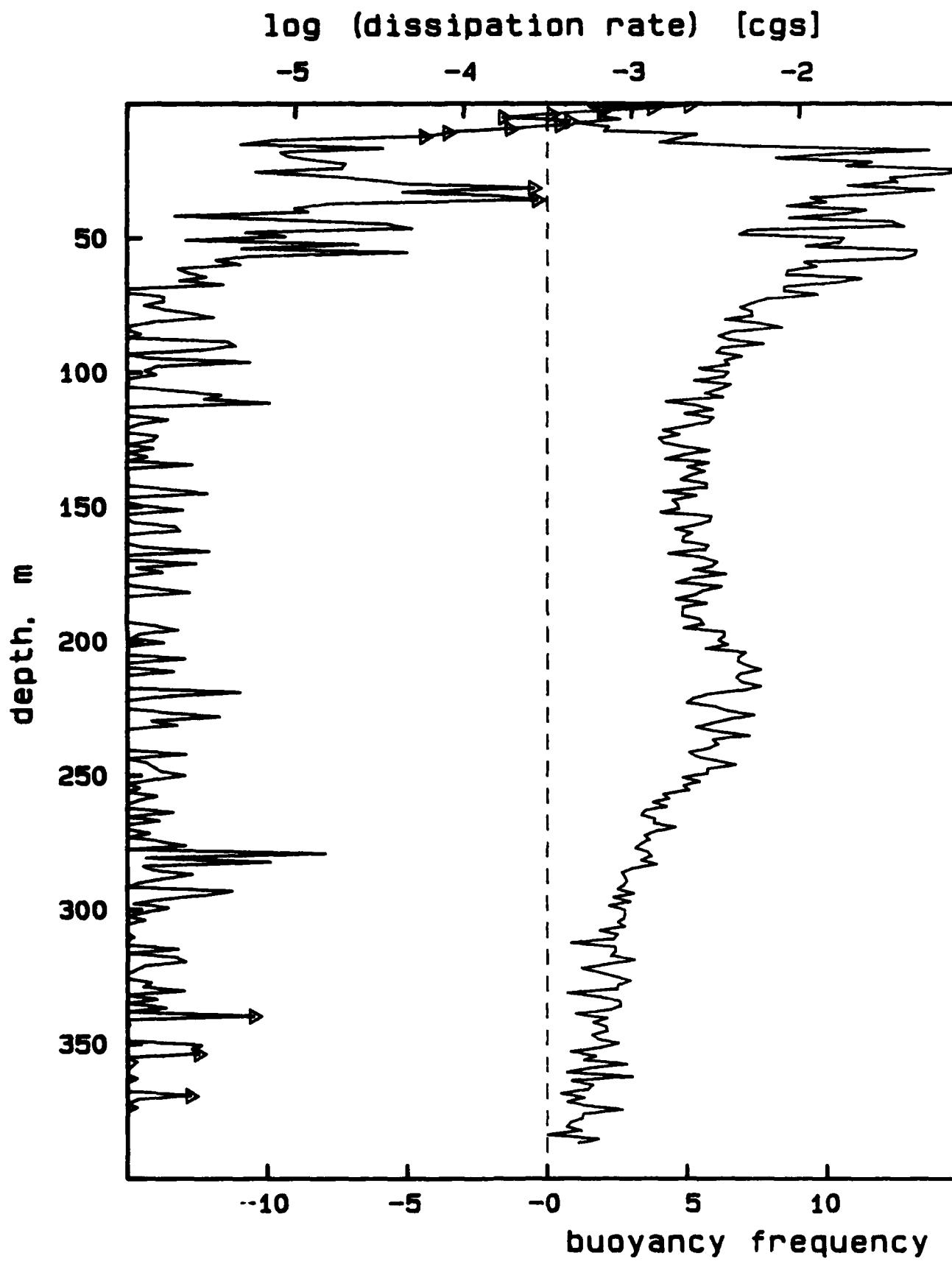
DA425G.006

log (dissipation rate) [cgs]

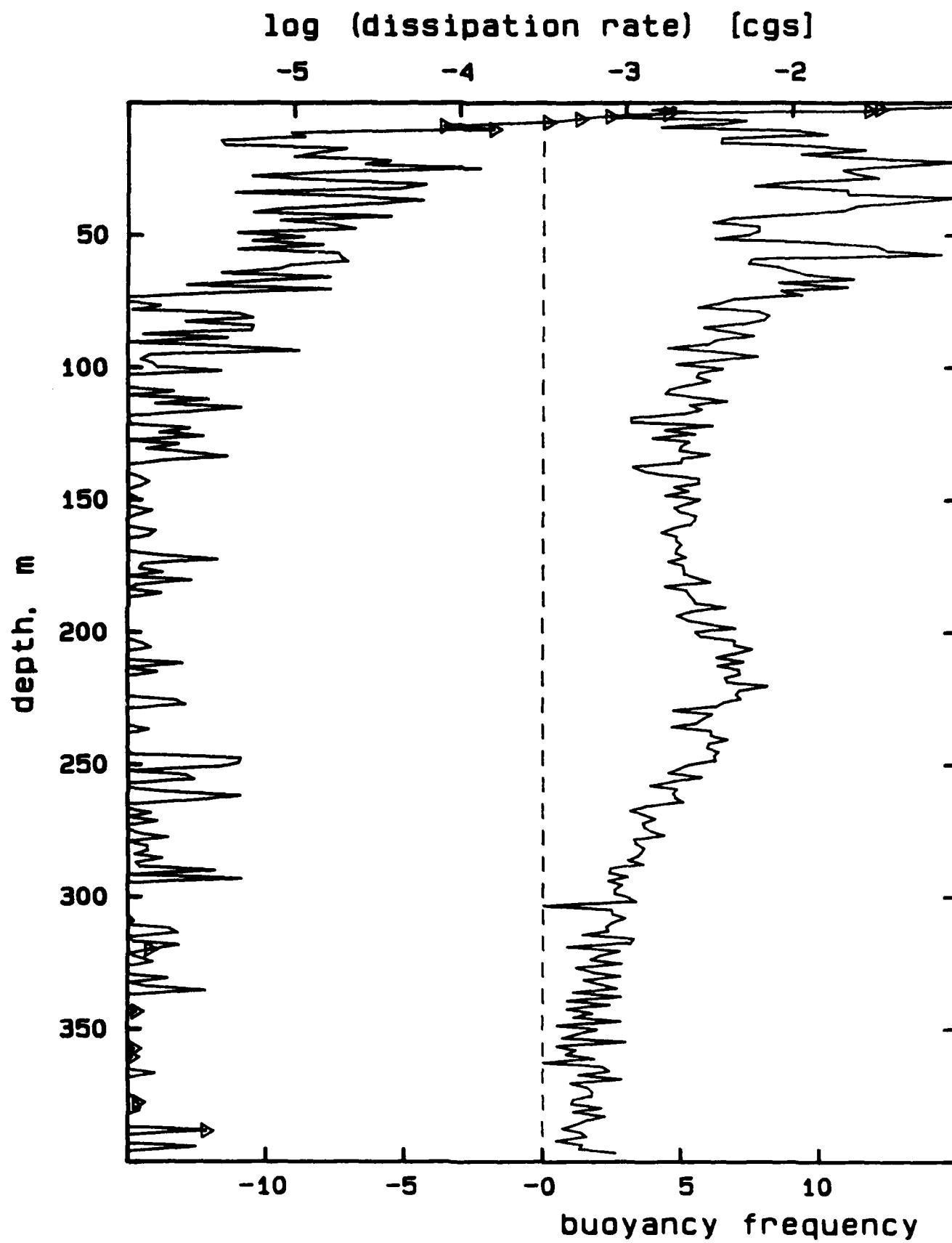
-5 -4 -3 -2



DA425G.007



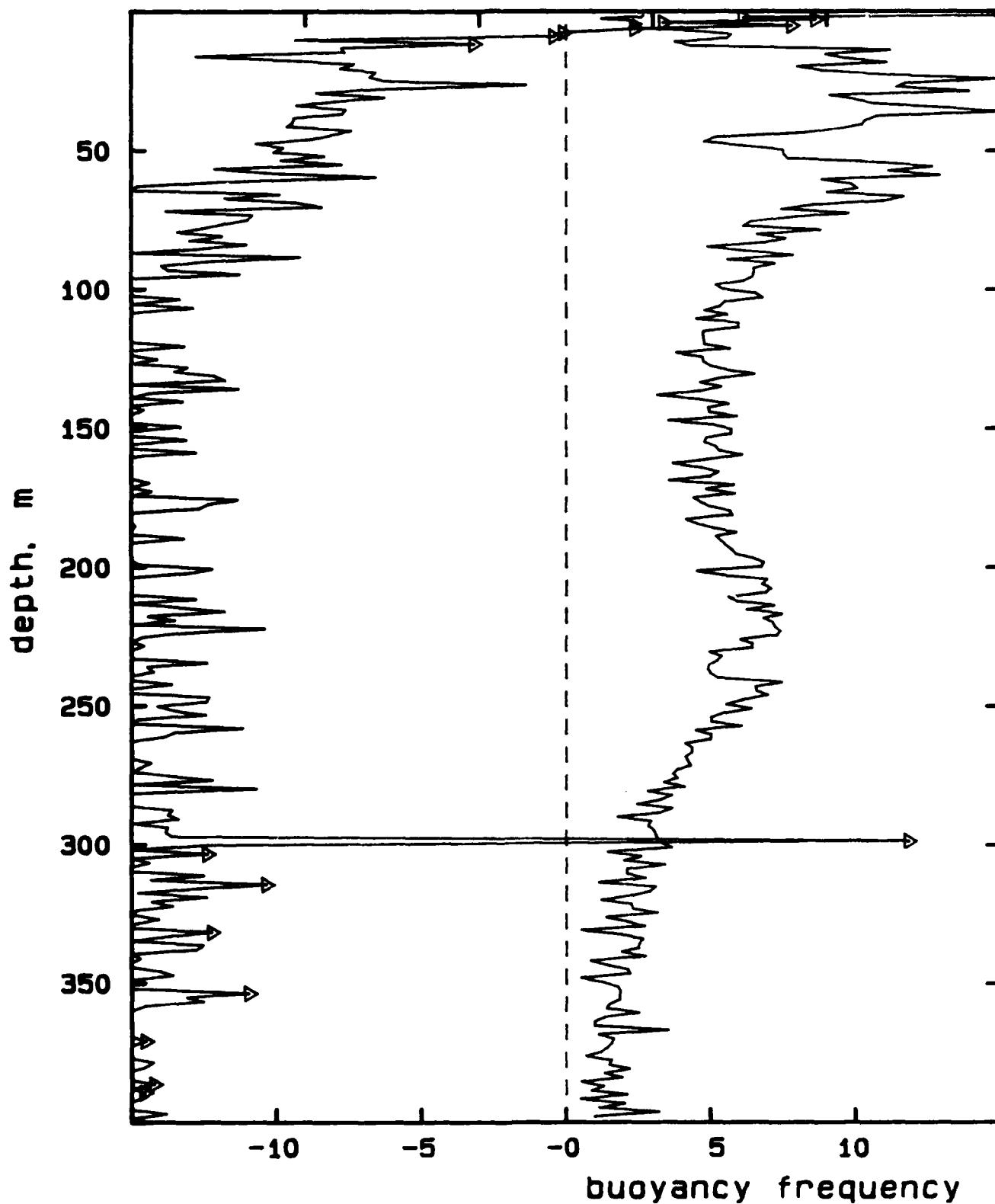
DA426A.001



DA426A.002

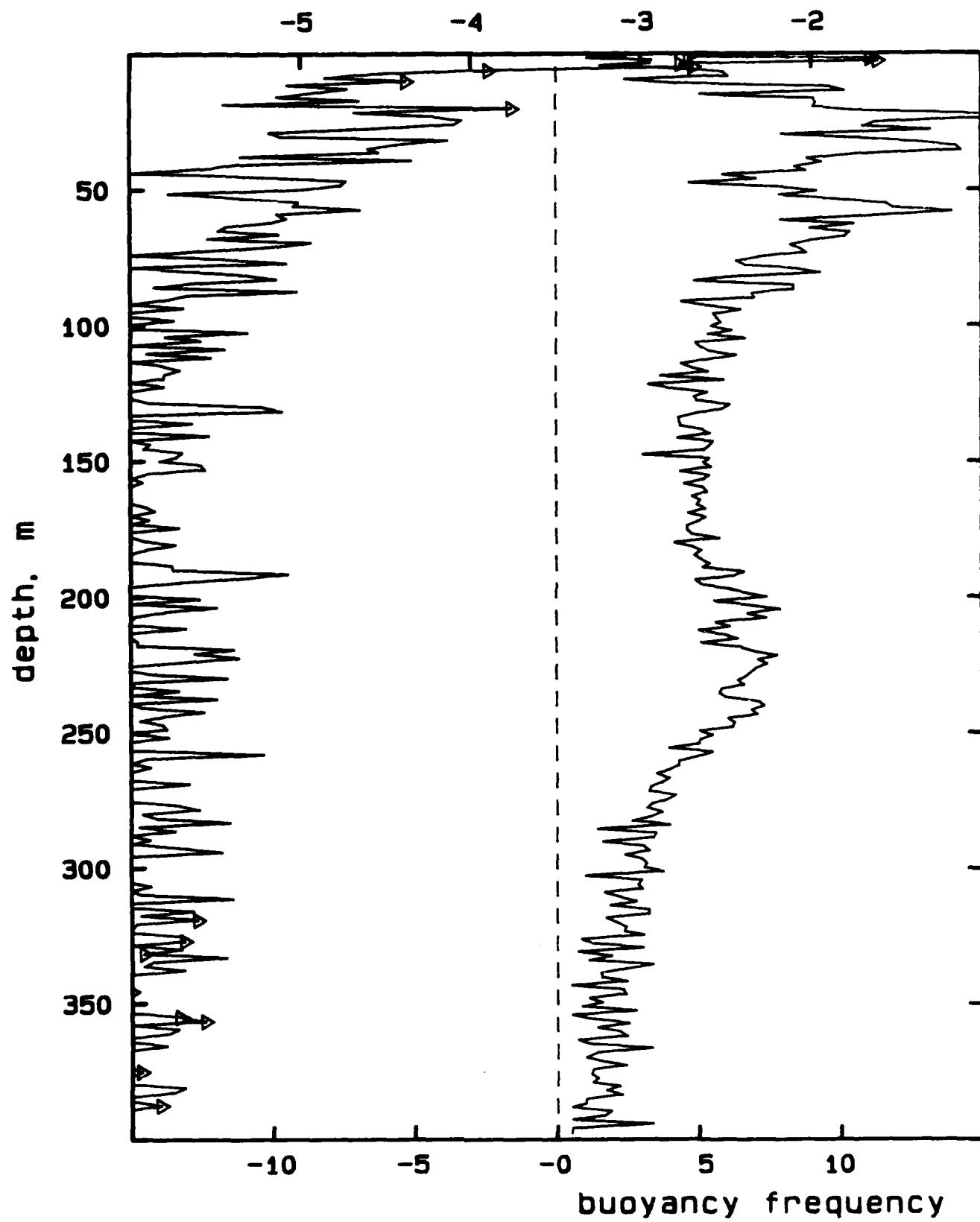
log (dissipation rate) [cgs]

-5 -4 -3 -2



DA426A.003

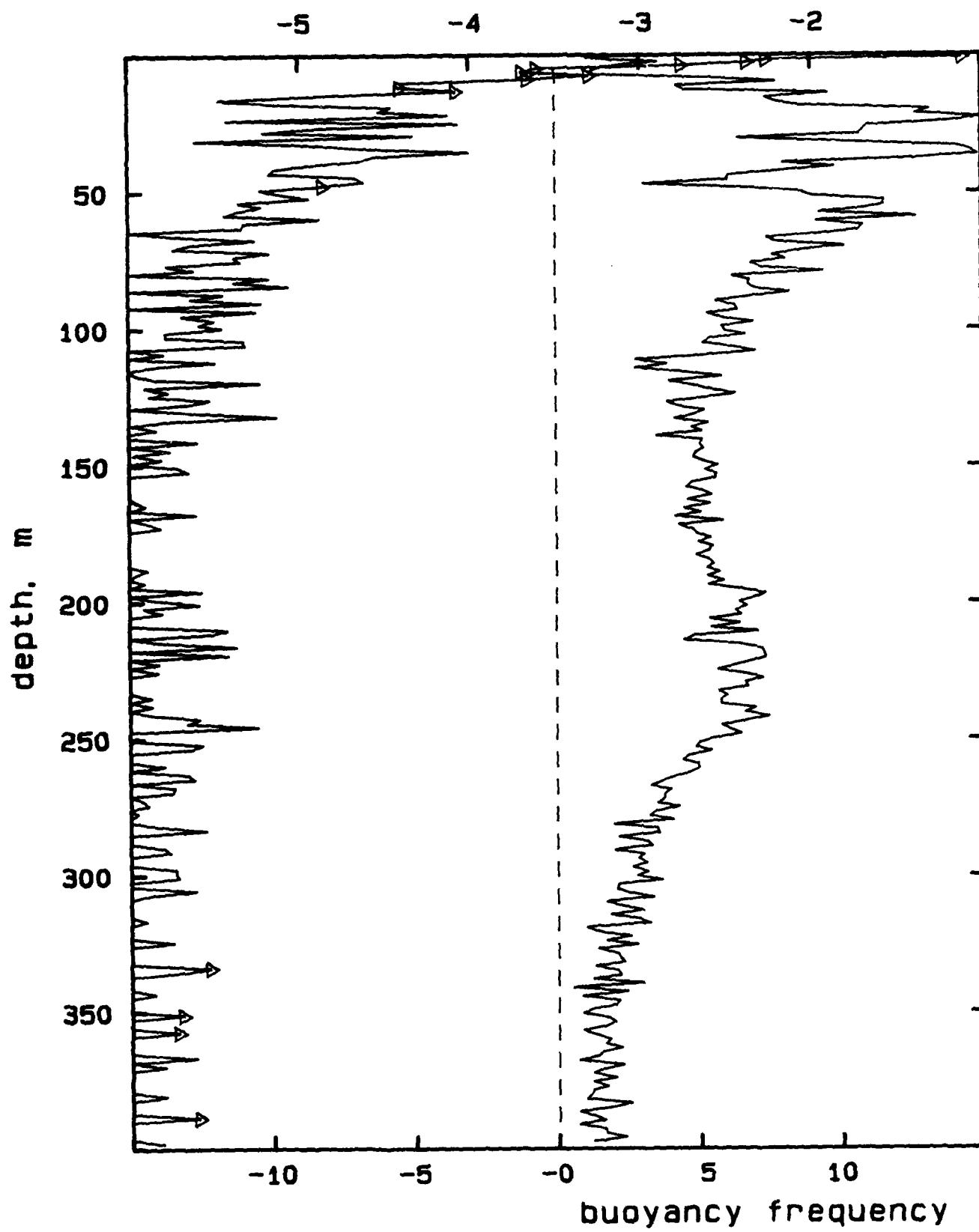
log (dissipation rate) [cgs]



432

DA426A.004

log (dissipation rate) [cgs]

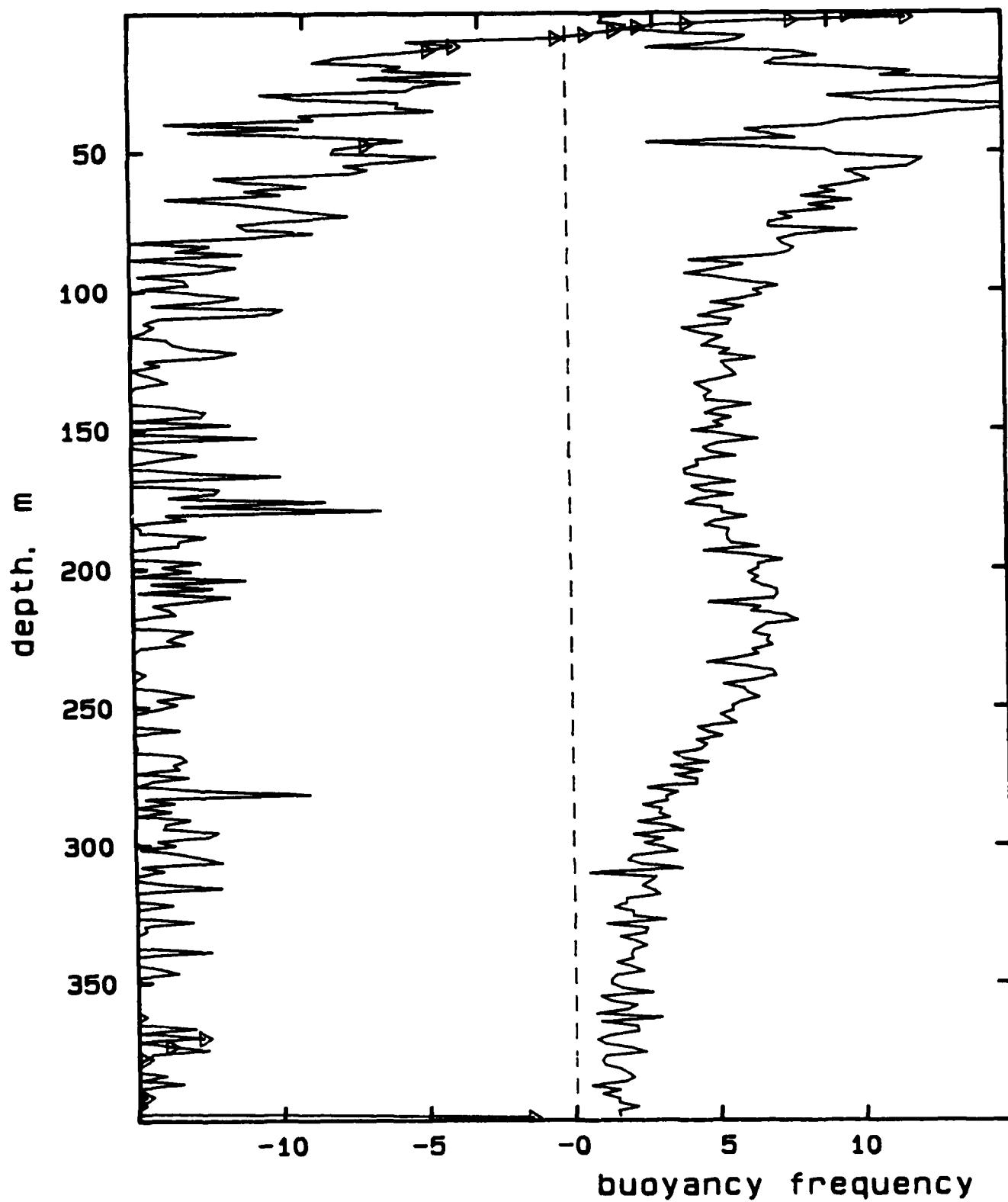


433

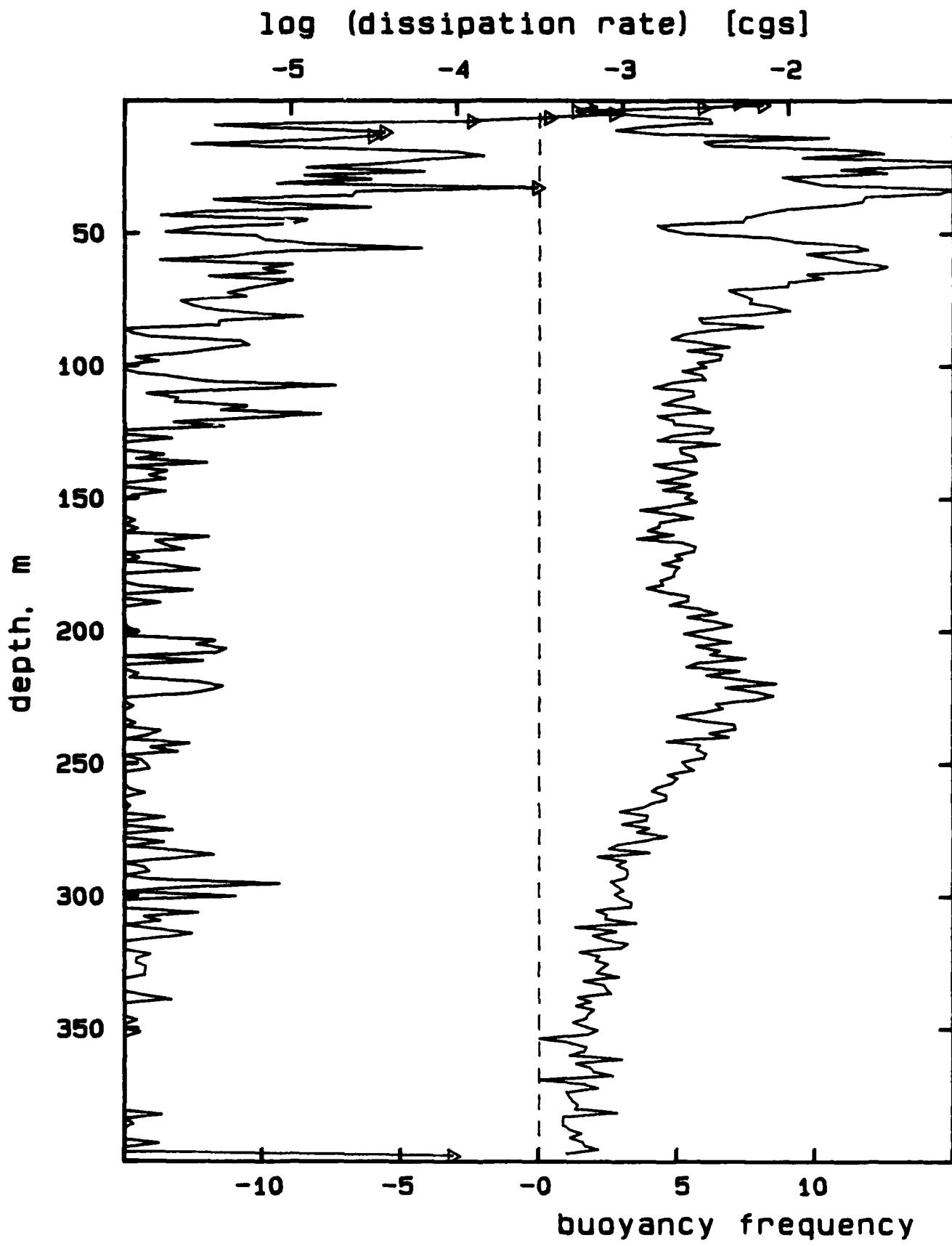
DA426A.005

log (dissipation rate) [cgs]

-5 -4 -3 -2



DA426A.006



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